

_____	)	DRAFT
IN THE MATTER OF:	)	<b>ADMINISTRATIVE ORDER ON</b>
	)	<b>CONSENT FOR REMEDIAL</b>
<b>Gulfco Marine Maintenance</b>	)	<b>INVESTIGATION/FEASIBILITY</b>
	)	<b>STUDY</b>
<b>Superfund Site</b>	)	
<b>Freeport, Texas</b>	)	
	)	
<b><u>The</u> Dow Chemical Company</b> _____	)	U.S. EPA REGION 6
	)	CERCLA Docket No. 06-_____
	)	-
<b>LDL Coastal Limited L.P.</b>	)	
	)	
<b>Sequa Corporation</b>	)	
	)	Proceeding under Sections 104, <u>107</u> , 122 (a)
	)	<b>and</b>
	)	<u>and</u> 122(d)(3) of the Comprehensive
	)	Environmental Response, Compensation,
	)	and Liability Act, 42 U.S.C. §§ 9604, <u>9607</u>
<b>RESPONDENTS</b>	)	9622(a) and 9622(d)(3)
	)	
_____	)	

**ADMINISTRATIVE ORDER ON CONSENT  
FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

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APPENDIX A	LIST OF THE RESPONDENTS
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	)	<b>CONSENT FOR REMEDIAL</b>
<b>Gulfco Marine Maintenance</b>	)	<b>INVESTIGATION/FEASIBILITY</b>
	)	<b>STUDY</b>
<b>Superfund Site</b>	)	
<b>Freeport, Texas</b>	)	
	)	
	)	U.S. EPA REGION 6
<b>RESPONDENTS LISTED IN</b>	)	CERCLA Docket No. 06-_____
<b>APPENDIX A</b>	)	
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	)	Proceeding under Sections 104, <u>107</u> , 122 (a)
	)	<b>and</b>
	)	<u>and</u> 122(d)(3) of the Comprehensive
	)	Environmental Response, Compensation,
	)	and Liability Act, 42 U.S.C. §§ 9604, <u>9607</u>
	)	9622(a) and 9622(d)(3)
	)	
	)	

**ADMINISTRATIVE ORDER ON CONSENT  
FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**I. JURISDICTION AND GENERAL PROVISIONS**

1. This Administrative Order on Consent ("Order") is entered into voluntarily by the United States Environmental Protection Agency ("EPA") and the Respondents listed in Appendix A ("Respondents"). The Order concerns the preparation and performance of a Remedial Investigation and Feasibility Study ("RI/FS") at the Gulfco Marine Maintenance Site located at 906 Marlin Avenue in Freeport, Brazoria County, Texas ("Site") and the reimbursement for future response costs incurred by EPA in connection with the RI/FS.
  
2. This Order is issued under the authority vested in the President of the United States by Sections 104, 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §§ 9604, 9607 and 9622 ("CERCLA"). This authority was delegated to the Administrator of EPA on January 23,

1987, by Executive Order 12580, 52 Fed. Reg. 2926 (Jan. 29, 1987), and further delegated to Regional Administrators on May 11, 1994, by EPA Delegation Nos. 14-14-C and 14-14-D. This authority was further redelegated by the Regional Administrator of EPA Region 6 to the Director, Superfund Division, by EPA Delegation Nos. R6-14-14-C and R6-14-14-D (June 8, 2001).

3. In accordance with Sections 104(b)(2) and 122(j)(1) of CERCLA, 42 U.S.C. §§ 9604(b)(2) and 9622(j)(1), EPA notified the U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Department of the Interior, U.S. Geological Survey, Texas Commission on Environmental Quality, Texas Parks and Wildlife Department, and the Texas General Land Office of negotiations with potentially responsible parties regarding the release of hazardous substances that may have resulted in injury to the natural resources under Federal and/or State trusteeship.
4. EPA and Respondents recognize that this Order has been negotiated in good faith and that the actions undertaken by Respondents in accordance with this Order do not constitute an admission of any liability. Respondents do not admit, and retain the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Order, the validity of the findings of fact, conclusions of law, and determinations in Sections V and VI of this Order. Respondents agree to comply with and be bound by the terms of this Order and further agree that they will not contest the basis or validity of this Order or its terms.

## **II. PARTIES BOUND**

5. This Order applies to and is binding upon EPA and upon Respondents and their successors and assigns. Any change in ownership or corporate status of a Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent's responsibilities under this Order.
6. Respondents are jointly and severally liable for carrying out all activities required by this Order. In the event of the insolvency or other failure of any one or more Respondents to implement the requirements of this Order, the remaining Respondents shall complete all such requirements.
7. Respondents shall ensure that their contractors, subcontractors, and representatives receive a copy of this Order and comply with this Order. Respondents shall be responsible for any noncompliance with this Order.
8. Each undersigned representative of Respondents certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to execute and legally bind Respondents to this Order.

### III. STATEMENT OF PURPOSE

9. In entering into this Order, the objectives of EPA and Respondents are: (a) to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants at or from the Site, by conducting a Remedial Investigation as more specifically set forth in the Statement of Work ("SOW") attached as Appendix B to this Order; (b) to identify and evaluate remedial alternatives to prevent, mitigate or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site, by conducting a Feasibility Study as more specifically set forth in the SOW in Appendix B to this Order; and (c) to recover response and oversight costs incurred by EPA with respect to this Order.
10. The Work conducted under this Order is subject to approval by EPA and shall provide all appropriate and necessary information to assess Site conditions and evaluate alternatives to the extent necessary to select a remedy that will be consistent with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300 ("NCP"). Respondents shall conduct all Work under this Order in compliance with CERCLA, the NCP, and all applicable EPA guidances, policies, and procedures.

### IV. DEFINITIONS

11. Unless otherwise expressly provided herein, terms used in this Consent Order which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Order, or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:
  - a. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. § 9601 *et seq.*
  - b. "Consent Order" or "Order" shall mean this Consent Order and all appendices attached hereto, and any amendments pursuant to Section XXIX of this Order. In the event of a conflict between this Consent Order and any appendix, this Consent Order shall control.
  - c. "Contaminant" shall mean any hazardous substances and pollutants as defined by Sections 101(14) and 101(32) of CERCLA, 42 U.S.C. §§ 9601(14) and 9601(32).
  - d. "Day" shall mean calendar day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next working day.

- e. “Effective Date” shall be the effective date of this Order as provided in Section XXXI.
- f. “Engineering Controls” shall mean constructed containment barriers or systems that control one or more of the following: downward migration, infiltration or seepage of surface runoff or rain; or natural leaching migration of contaminants through the subsurface over time. Examples include caps, engineered bottom barriers, immobilization processes, and vertical barriers.
- g. “EPA” shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.
- h. “Future Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Order, verifying the Work, or otherwise implementing, overseeing, or enforcing this Order, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, Agency for Toxic Substances and Disease Registry (“ATSDR”) costs, the costs incurred pursuant to Paragraph 69 (costs and attorneys fees and any monies paid to secure access, including the amount of just compensation), Paragraph 55 (emergency response), and Paragraph 102 (work takeover). ~~Future Response Costs shall also include all Interim Response Costs, and all Interest on those Past Response Costs Respondents have agreed to reimburse under this Order that has accrued pursuant to 42 U.S.C. § 9607(a) during the period from February 29, 2004, to the Effective Date of this Order.~~
- i. “Institutional controls” shall mean non-engineered instruments, such as administrative and/or legal controls, that help to minimize the potential for human exposure to contamination and/or protect the integrity of a remedy by limiting land and/or resource use. Examples of institutional controls include easements and covenants, zoning restrictions, special building permit requirements, and well drilling prohibitions.
- j. “Interest” shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.
- ~~k. “Interim Response Costs” shall mean all costs, including direct and indirect costs, (a) paid by the United States in connection with the Site between~~

~~February 29, 2004, and the Effective Date, or (b) incurred prior to the Effective Date, but paid after that date.~~

- k. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.
- l. "Order" shall mean this Administrative Order on Consent, the SOW, all appendices attached hereto (listed in Section XXVII) and all documents incorporated by reference into this document including without limitation EPA approved submissions. EPA approved submissions (other than progress reports) are incorporated into and become a part of the Order upon approval by EPA. In the event of conflict between this Order and any appendix or other incorporated documents, this Order shall control.
- m. "Paragraph" shall mean a portion of this Order identified by an Arabic numeral. References to paragraphs in the SOW will be so identified (for example, "SOW paragraph 15").
- n. "Parties" shall mean EPA and the Respondents.
- ~~p. "Past Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States paid at or in connection with the Site through February 29, 2004, plus interest on all such costs which has accrued pursuant to 42 U.S.C. § 9607(a) through such date.~~
- o. "Respondents", listed in Appendix A, shall mean all Potentially Responsible Parties ("PRPs") who have entered into this Consent Order. If additional parties sign this Consent Order, they shall become Respondents to this Order as of the date of their signing.
- p. "Section" shall mean a portion of this Order identified by a Roman numeral. References to sections in the SOW will be so identified; for example as "SOW Section V."
- q. "Site" shall mean the Gulfco Marine Maintenance Superfund Site located in Freeport, Brazoria County, Texas, encompassing approximately 40 acres on the north shore of the Intracoastal Waterway and depicted generally on the map attached as Appendix C.
- r. "State" shall mean the State of Texas.



- s. “Statement of Work” or “SOW” shall mean the Statement of Work for development of a RI/FS for the Site as set forth in Appendix B to this Order. The Statement of Work is incorporated into this Order and is an enforceable part of this Order as are any modifications made thereto in accordance with this Order.
- t. “TCEQ” shall mean the Texas Commission on Environmental Quality (formerly known as the Texas Natural Resource Conservation Commission [“TNRCC”]) and any successor departments or agencies of the State of Texas.
- u. “Waste Material” shall mean (1) any “hazardous substance” under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and (3) any “solid waste” under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).
- v. “Work” shall mean all activities Respondents are required to perform under this Order, except those required by Section XIV (Retention of Records).

## **V. FINDINGS OF FACT**

- 12. The Site is an inactive barge cleaning facility where waste disposal occurred. The Site consists of approximately 40 acres located one mile east of Highway 332 at 906 Marlin Avenue in Freeport, Brazoria County, Texas. The geographic coordinates are 28°58'07" north latitude, and 95°17'26" west longitude.
- 13. The Site borders 2170 feet of the north shore of the Intracoastal Waterway between Oyster Creek on the east and the Old Brazos River Channel and the Dow Barge Canal on the west. The Site is within an area of 100-year coastal flood with velocity (wave action). The southern part of the Site, south of Marlin Avenue, drains toward the south where it enters into the Intracoastal Waterway. Drainage from the Site area north of Marlin Avenue is to the northeast into adjacent wetlands. These wetlands extend approximately 0.48 miles to Oyster Creek.
- 14. A residential development exists approximately 500 feet southwest of the Site on the Intracoastal Waterway. According to U.S. Census data from 2000, there are 56 housing units and 61 residents within one-half mile of the Site. The nearest industrial facility to the Site, Offshore Services, Inc., is located adjacent to the Site on the east. This facility is a docking and staging area for supplying fuel, drilling mud, chemical additives, and cement to offshore drilling rigs.
- 15. According to the National Wetlands Inventory map for the Freeport Quadrangle, the wetlands north of the Site are estuarine, intertidal, emergent, persistent, and irregularly flooded.



16. The Site was operated by Gulfco Marine Maintenance, Inc., from 1971 through 1979. Fish Engineering and Construction, Inc., owned the Site from 1979 until 1989, when the majority of the Site, including Lots 21 through 25, and Lots 55, 57, and 58 (approximately 35 acres), was sold to Hercules Offshore Corporation (later Hercules Marine Services Corporation). LDL Coastal Limited LP acquired Hercules Marine Services' interest in the Site in a bankruptcy sale in 1999. The remaining lot, Lot 56 (approximately five acres), was ~~sold~~transferred by deed to Jack Palmer and Ron Hudson in 1999.
17. The primary Site operations consisted of draining, cleaning, servicing, and repair of various chemical barges. The barge repair work included welding, sandblasting, and painting. The Site also included three surface impoundments, which were earthen pits with natural clay liners located on Lot 56. Beginning in 1971, the impoundments were used for storage of waste oils, caustics, various organic chemicals, and waste wash waters generated during barge cleaning activities. The impoundments were deactivated in October 1981; and closed in 1982 after the state approved its hazardous waste closure plan. Later operations used floating barges and above ground storage tanks to store the barge wash waters.
18. According to a letter from Fish Engineering & Construction, Inc., to the Texas Air Control Board, dated April 14, 1982, between June 1980 and August 1981, the barge cargoes for washing at the Site included: fuel oil, crude oil, diesel, oil residues, gas oil, benzene, xylene, toluene, cyclo-hexane, cumene, ethyl benzene, styrene, hydrochloric acid, glycols, methanol, butanol, chloroform, perchloroethylene, vinyl chloride, acetone, methyl ethyl keytone, and vinyl acetate among other barge cargoes.
19. According to the "Site Inspection Report", dated July 15, 1980, prepared by EPAthe Texas Commission on Environmental Quality Site Assessment & Management Section, formerly known as the Texas Natural Resource Conservation Commission, discharges occurred from the waste impoundments in July 1974 and August 1979.
20. According to the "Screening Site Inspection Report", dated July 2000 ("SSI Report"), prepared by the Texas Natural Resource Conservation Commission (TNRCC), and the "HRS Documentation Record, Gulfco Marine Maintenance Site", dated February 2002 ("HRS Report"), prepared by TNRCC, the site included two barge slips, a dry dock area, and various above ground tanks used for storage of product drained from the barges prior to cleaning.
21. According to the "Site Characterization Report", dated June 1999, prepared by LT Environmental, Inc. ("LTE"), for LDL Coastal, Inc. ("LTE Report", the tank farm area at the Site originally consisted of 12 product above ground storage tanks and four wash water above ground storage tanks. The tank farm area had no levees or containment dikes in 1989 during the EPA Site visit. The tank farm currently is contained in a concrete

berm. LTE conducted sampling of the tanks in March 1999 and identified the following hazardous substances: acetone; benzene; 2-butanone, chloroform; 1,1-dichloroethane; 1,2-dichloroethane; carbon tetrachloride; ethylbenzene; 4-methyl-2-pentanone; methylene chloride; naphthalene; styrene; tetrachloroethylene; toluene; 1,1,1-trichloroethane; trichloroethylene; Arochlor 1254; and xylenes.

22. In September 1999, LDL Coastal Limited, L.P., arranged for the removal of 45 drums containing hazardous waste from the Site property.
23. According to the SSI Report, in January 2000, the Texas Natural Resource Conservation Commission (now known as the Texas Commission on Environmental Quality) conducted sampling activities at the Site. The sampling results documented hazardous substances above background concentrations and above the sample quantitation limit in the soil at the Site as follows:

Hazardous Substance	Maximum Soil Concentration, mg/kg	
	Site	Background
methylene chloride	0.025J	0.006
phenanthrene	2.5	ND (0.44)
fluoranthene	5.1	ND (0.44)
pyrene	4.4	ND (0.44)
benzo(a)anthracene	2.4	ND (0.44)
benzo(b)fluoranthene	2.7	ND (0.44)
benzo(k)fluoranthene	2.5	ND (0.44)
benzo(a)pyrene	2.6	ND (0.44)
benzo(g,h,i)perylene	2.24J	ND (0.44)
chrysene	2.8	ND (0.44)
ideno(1,2,3-cd)pyrene	2.2	ND (0.44)
alpha-chlordane	0.0084 ^	ND (0.0022)
gamma-chlordane	0.020	ND (0.0022)
dieldrin	0.015J	ND (0.0043)
4,4'-DDT	0.015J	ND (0.0043)

Hazardous Substance	Maximum Soil Concentration, mg/kg	
	Site	Background
endrin aldehyde	0.018J <sup>^</sup>	ND (0.0043)
Arochlor-1254 (PCB)	0.150	ND (0.043)
lead	221 <sup>^</sup>	14.3
zinc	1150	50.1

ND = Not detected at the reported sample quantitation limit (SQL)

J, J<sup>^</sup>, J<sup>v</sup> = sample results are estimated and/or biased high/low due to a quality control problem

<sup>^</sup> = High biased. Actual concentration may be lower than the concentration reported.

24. According to the SSI Report, in January 2000, the Texas Natural Resource Conservation Commission (now known as the Texas Commission on Environmental Quality) conducted sampling activities in the Intracoastal Waterway adjacent to the southern boundary of the Site. The sampling results documented releases of hazardous substances from the Site to the sediment in the Intracoastal Waterway as follows:

Hazardous Substance	Maximum Sediment Concentration, mg/kg	
	Adjacent to Site	Background
phenanthrene	1.2	ND (0.490)
fluoranthene	2.0	ND (0.490)
pyrene	2.0	ND (0.490)
bis(2-ethylhexyl)phthalate	1.2	0.150
gamma-chlordane	0.0055	ND ( 0.0026)
heptachlor-epoxide	0.0038	ND ( 0.0026)
lead	46.8	12.6
zinc	314	54.4

*ND = Not detected at the reported sample quantitation limit (SQL)*

25. According to the HRS Report, the Intracoastal Waterway is considered a fishery. Photographs taken during the January 2000 SSI sampling event documented the Intracoastal Waterway as being a fishery.
26. According to the HRS Report, a hazardous substance with a bio-accumulation potential factor (measure that reflects the tendency for a substance to accumulate in the tissue of an aquatic organism) of 500 or greater that is present in the sediment of a fishery is a potential threat to contamination of the human food chain. The hazardous substances present in Intracoastal Waterway sediment that are identified as releases from the Site having bio-accumulation potential factors greater than 500 are as follows:

Hazardous Substance	Bio-Accumulation Potential Factor
fluoranthene	5,000
pyrene	5,000
bis(2-ethylhexyl)phthalate	50,000
gamma-chlordane	50,000
lead	5,000
zinc	50,000

27. According to the HRS Report, in January 2001, the Texas Natural Resource Conservation Commission (now known as the Texas Commission on Environmental Quality) conducted sampling of the shallow ground water at the Site. The ground water samples were collected from temporary monitor wells screened between depths of 10 feet and 24 feet. The sampling results documented releases of hazardous substances from the Site to the ground water as follows:

Hazardous Substance	Maximum Ground Water Concentration, mg/L	
	Site	Background
benzene	18LJ	ND (0.010)
carbon disulfide	0.048J	ND (0.010)

Hazardous Substance	Maximum Ground Water Concentration, mg/L	
	Site	Background
chloroform	1.2 <u>LJ</u>	ND (0.010)
1,1-dichloroethane	12	ND (0.010)
1,2-dichloroethane	2,800 <u>Jv</u>	ND (0.010)
1,1-dichloroethene	30	ND (0.010)
1,2-dichloropropane	2.1 <u>J</u>	ND (0.010)
ethyl benzene	0.040	ND (0.010)
methylene chloride	750 <u>Jv</u>	ND (0.010)
4-methyl-2-pentanone	0.30 <u>J</u>	ND (0.010)
tetrachloroethene	29 <u>LJ</u>	ND (0.010)
toluene	0.78 <u>LJ</u>	ND (0.010)
1,1,1-trichloroethane	93	ND (0.010)
1,1,2-trichloroethane	0.046	ND (0.010)
trichloroethene	92	ND (0.010)
vinyl chloride	17	ND (0.010)
xylenes	0.130	ND (0.010)
acetophenone	0.120	ND (0.010)
phenol	0.051	ND (0.010)
naphthalene	0.230	ND (0.010)
aldrin	0.000099 <u>J</u>	ND (0.00005)
alpha-BHC	0.00048 <u>J</u>	ND (0.00005)
beta-BHC	0.00075 <u>J</u>	ND (0.00005)
delta-BHC	0.000092 <u>J</u>	ND (0.00005)
gamma-BHC (lindane)	0.00059 <u>J</u>	ND (0.00005)
endrin	0.00032 <u>J</u>	ND (0.0001)

Hazardous Substance	Maximum Ground Water Concentration, mg/L	
	Site	Background
endosulfan II	0.00042J	ND (0.0001)
4,4'-DDT	0.0014J	ND (0.0001)
arsenic	0.0777	0.00102
cobalt	0.0669	0.0174
copper	0.273	0.0364
lead	0.0947	0.0244
manganese	<del>8</del> 14.66L	2.81
nickel	0.217	0.0468
vanadium	0.196	0.0649

*ND = Not detected at the reported sample quantitation limit (SQL)*

*J, J<sup>^</sup>, J<sub>v</sub> = sample results are estimated and/or biased high/low due to a quality control problem.*

*L = Reported concentration is below the CRQL.*

28. According to the "Screening Site Inspection of Fish Engineering and Construction, Inc." Report, undated, prepared by Ecology and Environment, Inc., for EPA, ground water at the Site flows to the southeast. The closest water supply well (Well BH8106-303) was on the west adjacent property to the Site, and was used for a public marina until 1984. The well was 199 feet deep and was screened from a depth of 188 feet to 198 feet.
29. According to the memorandum "Environmental Priority Initiative (EPI) Preliminary Assessment of Fish Engineering Construction, Inc.", dated August 2, 1989, from Jairo Guevara to Ed Sierra, the City of Freeport was previously supplied by ground water from seven wells at depths of 200 feet. These wells were used until 1989 when they were replaced by surface water reservoirs, and subsequently the wells were used as a backup system.
30. The hazardous substances identified above, under certain conditions of dose, duration, or extent of exposure, may produce adverse health and environmental effects. A number of these hazardous substances have been identified as probable carcinogens.

31. A Public Health Assessment ("PHA") of the Site was prepared by the Texas Department of Health for the Agency for Toxic Substances and Disease Registry on April 19, 2004.
32. The Site was proposed for listing on the National Priorities List ("NPL") on September 5, 2002 (67 FR 56794), and was placed on the NPL effective May 30, 2003, in a final rulemaking published on April 30, 2003 (68 FR 23077).
- ~~31. EPA has incurred response costs at or in connection with the Site. As of April 30, 2004, EPA had incurred and paid past response costs at this Site of \$162,707.07.~~
33. Respondent LDL Coastal Limited L.P. is a domestic limited partnership incorporated in the state of Texas. LDL Coastal Limited L.P. is the current owner of certain parts of the Site, including Track numbers 21, 21A, 21B, 22, 23, 24, 25, 55, 57, and 58 of Subdivision Number 8, Brazos Coast Investment Company Subdivision.
34. Respondent Sequa Corporation is a corporation incorporated in the state of Delaware. Sequa Corporation is the parent company to Chromalloy American Corporation, who is a past owner of the Site.
35. Respondent The Dow Chemical Company is a corporation incorporated in the state of Delaware. Dow Chemical Company arranged for disposal or treatment of hazardous substances, which were owned or possessed by said company, at the Site.

## **VI. CONCLUSIONS OF LAW AND DETERMINATIONS**

Based on the Findings of Fact set forth above, EPA has determined that:

36. The Gulfco Marine Maintenance Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
37. The contamination found at the Site, as identified in the Findings of Fact above, includes [a] "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), or constitutes "any pollutant or contaminant" that may present an imminent and substantial danger to public health or welfare under Section 104(a)(1) of CERCLA.
38. The conditions described in the Findings of Fact above constitute an actual and/or threatened "release" of a hazardous substance from the facility as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).
39. Each Respondent is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).



40. Respondents are responsible parties under Sections 104, 107 and 122 of CERCLA, 42 U.S.C. §§ 9604, 9607 and 9622.
41. The actions required by this Order are necessary to protect the public health, welfare or the environment, are in the public interest, 42 U.S.C. § 9622(a), are consistent with CERCLA and the NCP, 42 U.S.C. §§ 9604(a)(1), 9622(a), and will expedite effective remedial action and minimize litigation, 42 U.S.C. § 9622(a).
42. EPA has determined that Respondents are qualified to conduct the RI/FS within the meaning of Section 104(a) of CERCLA, 42 U.S.C. § 9604(a), and will carry out the Work properly and promptly, in accordance with Sections 104(a) and 122(a) of CERCLA, 42 U.S.C. §§ 9604(a) and 9622(a), if Respondents comply with the terms of this Order.

## **VII. ORDER**

43. Based upon the foregoing Findings of Fact and Conclusions of Law and Determinations, it is hereby Ordered and Agreed that Respondents shall comply with all provisions of this Order, including, but not limited to, all appendices to this Order and all documents incorporated by reference into this Order.

## **VIII. DESIGNATION OF CONTRACTORS AND PROJECT COORDINATORS**

44. Selection of Contractors, Personnel

All Work performed under this Order shall be under the direction and supervision of qualified personnel. Within thirty (30) calendar days of the Effective Date of this Order, and before the Work outlined below begins, Respondents shall notify EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants and laboratories to be used in carrying out such Work. Respondents shall notify EPA in writing of, and provide qualifications for, any additional contractors or other personnel that are subsequently proposed by Respondents to carry out the Work within fifteen (15) days after being proposed by Respondents. With respect to any proposed contractor, Respondents shall demonstrate that the proposed contractor has a quality system which complies with ANSI/ASQC E4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (American National Standard, January 5, 1995, or most recent version), by submitting a copy of the proposed contractor's Quality Management Plan ("QMP"). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)," (EPA/240/B-01/002, March 2001 or subsequently issued guidance) or equivalent documentation as determined by EPA. The qualifications of the persons undertaking the Work for Respondents shall be subject to EPA's review, for verification that such persons meet minimum technical background and experience requirements. This Order is contingent on Respondents' demonstration to EPA's

satisfaction that Respondents are qualified to perform properly and promptly the actions set forth in this Order. If EPA disapproves in writing of any person's technical qualifications, Respondents shall notify EPA of the identity and qualifications of the replacements within thirty (30) calendar days of the written notice. If EPA subsequently disapproves of the replacement, EPA reserves the right to terminate this Order and to conduct a complete RI/FS, and to seek reimbursement for costs and penalties from Respondents. During the course of the RI/FS, Respondents shall notify EPA in writing of any changes or additions in the personnel used to carry out such Work, providing their names, titles, and qualifications. EPA shall have the same right to disapprove changes and additions to personnel as it has hereunder regarding the initial notification.

45. Within ten (10) calendar days after the Effective Date, Respondents shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondents required by this Order and shall submit to EPA the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site Work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondents shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number and qualifications within ten (10) calendar days following EPA's disapproval. Respondents shall have the right to change their Project Coordinator, subject to EPA's right to disapprove. Respondents shall notify EPA five (5) calendar days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notification. Receipt by Respondents' Project Coordinator of any notice or communication from EPA relating to this Order shall constitute receipt by Respondents.
46. EPA has designated M. Gary Miller of the Superfund Division, EPA Region 6 as its Remedial Project Manager ("RPM"). EPA will notify Respondents of a change of its designated RPM. Except as otherwise provided in this Order, Respondents shall direct all submissions required by this Order to the RPM.

- a. Documents to be submitted to EPA should be sent to:

M. Gary Miller  
Superfund Division (6SF-AP)  
U.S. EPA Region 6  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733

- b. Documents to be submitted to Respondents should be sent to:

47. EPA's RPM shall have the authority lawfully vested in a RPM and On-Scene Coordinator ("OSC") by the NCP. In addition, EPA's RPM shall have the authority consistent with the NCP, to halt any Work required by this Order, and to take any necessary response action when s/he determines that conditions at the Site may present an immediate endangerment to public health or welfare or the environment. The absence of the EPA Project Coordinator from the area under study pursuant to this Order shall not be cause for the stoppage or delay of Work.
48. EPA shall arrange for a qualified person to assist in its oversight and review of the conduct of the RI/FS, as required by Section 104(a) of CERCLA, 42 U.S.C. Section 9604(a). Such person shall have the authority to observe Work and make inquiries in the absence of EPA, but not to modify the RI/FS Work Plan.

### **IX. WORK TO BE PERFORMED**

49. Respondents shall conduct the RI/FS in accordance with the provisions of this Order, the attached SOW, CERCLA, the NCP and applicable EPA guidance, including, but not limited to the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (OSWER Directive # 9355.3-01, October 1988 or subsequently issued guidance), "Guidance for Data Useability in Risk Assessment" (OSWER Directive #9285.7-05, October 1990 or subsequently issued guidance), and guidance referenced therein, and guidances referenced in the SOW, as may be amended or modified by EPA. The Remedial Investigation ("RI") shall consist of collecting data to characterize site conditions, determining the nature and extent of the contamination at or from the Site, assessing risk to human health and the environment and conducting treatability testing as necessary to evaluate the potential performance and cost of the treatment technologies that are being considered. The Feasibility Study ("FS") shall determine and evaluate (based on treatability testing, where appropriate) alternatives for remedial action to prevent, mitigate or otherwise respond to or remedy the release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site. The alternatives evaluated must include, but shall not be limited to, the range of alternatives described in the NCP, and shall include remedial actions that utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In evaluating the alternatives, Respondents shall address the factors required to be taken into account by Section 121 of CERCLA, 42 U.S.C. § 9621, and Section 300.430(e) of the NCP, 40 C.F.R. § 300.430(e). Upon request by EPA, Respondents shall submit in electronic form all portions of any plan, report or other deliverable Respondents are required to submit pursuant to provisions of this Order.

50. Upon receipt of the draft FS report, EPA will evaluate, as necessary, the estimates of the risk to the public and environment that are expected to remain after a particular remedial alternative has been completed and will evaluate the durability, reliability and effectiveness of any proposed Institutional Controls.
51. Amendment of the RI/FS Work Plan
- a. If at any time during the RI/FS process, Respondents identify a need for additional data, Respondents shall submit a memorandum documenting the need for additional data to the EPA RPM within twenty (20) calendar days of identification. EPA in its discretion will determine whether the additional data will be collected by Respondents and whether it will be incorporated into plans, reports and other deliverables.
  - b. In the event of unanticipated or changed circumstances at the Site, Respondents shall notify the EPA RPM by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In the event that EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the RI/FS Work Plan, EPA shall amend the RI/FS Work Plan in writing accordingly. Respondents shall perform the RI/FS Work Plan as amended.
  - c. EPA may determine that in addition to tasks defined in the initially approved RI/FS Work Plan, other additional Work may be necessary to accomplish the objectives of the RI/FS. Respondents agree to perform these response actions in addition to those required by the initially approved RI/FS Work Plan, including any approved amendments, if EPA determines that such actions are necessary for a complete RI/FS.
  - d. Respondents shall confirm or deny their willingness to perform the additional Work, Respondents needs to submit their confirmation or objection in writing to EPA within fourteen (14) calendar days of receipt of the EPA request. If Respondents object to any amendment determined by EPA to be necessary pursuant to this Paragraph, Respondents may seek dispute resolution pursuant to Section XV (Dispute Resolution). The SOW and/or RI/FS Work Plan shall be modified in accordance with the final resolution of the dispute.
  - e. Respondents shall complete the additional Work according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the RI/FS Work Plan or written RI/FS Work Plan supplement. EPA reserves the right to conduct the Work itself at any point, to seek reimbursement from Respondents, and/or to seek any other appropriate relief.

- f. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions at the Site.

52. Off-Site Shipment of Waste Material

- a. Respondents shall, prior to any off-site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to EPA's RPM. However, this notification requirement shall not apply to any off-site shipments when the total volume of all such shipments will not exceed 10 cubic yards.
- b. Respondents shall include in the written notification the following information: (1) the name and location of the facility to which the Waste Material is to be shipped; (2) the type and quantity of the Waste Material to be shipped; (3) the expected schedule for the shipment of the Waste Material; and (4) the method of transportation. Respondents shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.
- c. The identity of the receiving facility and state will be determined by Respondents following the award of the contract for the remedial investigation and feasibility study. Respondents shall provide the information required by Subparagraph 53(b) and 53(d) as soon as practicable after the award of the contract and before the Waste Material is actually shipped.
- d. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-site location, Respondents shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents shall only send hazardous substances, pollutants, or contaminants from the Site to an off-site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

53. Meetings

Upon fourteen (14) calendar days prior written notice from EPA, Respondents shall make presentations at, and participate in, meetings at the request of EPA during the initiation, conduct, and completion of the RI/FS. In addition to discussion of the technical aspects of the RI/FS, topics will include anticipated problems or new issues. Meetings will be scheduled at EPA's discretion.

54. Progress Reports

In addition to the plans, reports and other deliverables set forth in this Order, Respondents shall provide to EPA ~~bi-monthly~~monthly progress reports by the tenth (10<sup>th</sup>) day of the ~~following~~ month. These progress reports can be submitted electronically. At a minimum, with respect to the preceding reports, these progress reports shall (1) describe the actions which have been taken to comply with this Order during that month, (2) include all results of sampling and tests and all other data received by Respondents, (3) describe Work planned for the next two months with schedules relating such Work to the overall project schedule for RI/FS completion, and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

~~54. Weekly Updates~~

~~In addition to the EPA bi-monthly progress reports, Respondents shall provide to EPA weekly updates by the Tuesday of each week. The weekly update can be submitted electronically. At a minimum, the weekly update shall (1) describe the actions which have been taken with regards to the Site within the past week, (2) include all results of sampling and tests and all other data received since the last update, and (3) describe Work planned for the next week.~~

55. Emergency Response and Notification of Releases

- a. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondents shall immediately take all appropriate action. Respondents shall take these actions in accordance with all applicable provisions of this Order, including, but not limited to, the Health and Safety Plan, in order to prevent, abate, or minimize such release or endangerment caused or threatened by the release. Respondents shall also immediately notify the National Response Center, 24-hour telephone number (800) 424-8802, and the EPA RPM of the incident or Site conditions. In the event that Respondents fail to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondents shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XVIII (Payment of Response Costs).
- b. In addition, in the event of any release of a hazardous substance from the Site, Respondents shall submit a written report to EPA within seven (7) calendar days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the



release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, et seq.

#### **X. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS**

56. After review of any plan, report or other item that is required to be submitted for approval pursuant to this Order, in a notice to Respondents EPA shall: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that Respondents modify the submission; or (e) any combination of the above. However, EPA shall not modify a submission without first providing Respondents at least one notice of deficiency and an opportunity to cure within thirty (30) calendar days of Respondents' receipt of said notice, or within the time specified by EPA in said notice, except where to do so would cause serious disruption to the Work or where previous submission(s) have been disapproved due to material defects.
57. In the event of approval, approval upon conditions, or modification by EPA, pursuant to Subparagraph 56(a), (b), (c) or (e), Respondents shall proceed to take any action required by the plan, report or other deliverable, as approved or modified by EPA subject only to their right to invoke the Dispute Resolution procedures set forth in Section XV (Dispute Resolution) with respect to the modifications or conditions made by EPA. Following EPA approval or modification of a submission or portion thereof, Respondents shall not thereafter alter or amend such submission or portion thereof unless directed by EPA. In the event that EPA modifies the submission to cure the deficiencies pursuant to Subparagraph 56(c) and the submission had a material defect, EPA retains the right to seek stipulated penalties, as provided in Section XVI (Stipulated Penalties).
58. Re-submission
- a. Upon receipt of a notice of disapproval, Respondents shall, within thirty (30) calendar days of Respondents' receipt of said notice, or such longer time as specified by EPA in said notice, correct the deficiencies and resubmit the plan, report, or other deliverable for approval. Any stipulated penalties applicable to the submission, as provided in Section XVI, shall accrue during the thirty (30) calendar day period or otherwise specified period, but shall not be payable unless the re-submission is disapproved or modified due to a material defect as provided in Paragraphs 59 and 60.
- b. Notwithstanding the receipt of a notice of disapproval, Respondents shall proceed to take any action required by any non-deficient portion of the submission, unless otherwise directed by EPA. Implementation of any non-deficient portion of a



submission shall not relieve Respondents of any liability for stipulated penalties under Section XVI (Stipulated Penalties).

- c. Respondents shall not proceed further with any subsequent activities or tasks until receiving EPA approval, approval on condition or amendment of the following deliverables: RI/FS Work Plan, Sampling and Analysis Plan, Draft Remedial Investigation Report, Treatability Testing Work Plan, Sampling and Analysis Plan, and Draft Feasibility Study Report. While awaiting EPA approval, approval on condition, or amendment of these deliverables, Respondents shall proceed with all other tasks and activities which may be conducted independently of these deliverables, in accordance with the schedule set forth under this Order.
  - d. For all remaining deliverables not listed above in subparagraph 58(c), Respondents shall proceed with all subsequent tasks, activities and deliverables without awaiting EPA approval on the submitted deliverable. EPA reserves the right to stop Respondents from proceeding further, either temporarily or permanently, on any task, activity or deliverable at any point during the RI/FS.
59. If EPA disapproves a resubmitted plan, report or other deliverable, or portion thereof, EPA may again direct Respondents to correct the deficiencies. EPA shall also retain the right to amend or develop the plan, report or other deliverable. Respondents shall implement any such plan, report, or deliverable as corrected, amended or developed by EPA, subject only to Respondents' right to invoke the procedures set forth in Section XV (Dispute Resolution).
60. If upon re-submission, a plan, report, or other deliverable is disapproved or amended by EPA due to a material defect, Respondents shall be deemed to have failed to submit such plan, report, or other deliverable timely and adequately unless Respondents invoke the dispute resolution procedures in accordance with Section XV (Dispute Resolution) and EPA's action is revoked or substantially amended pursuant to a Dispute Resolution decision issued by EPA or superceded by an agreement reached pursuant to that Section. The provisions of Section XV (Dispute Resolution) and Section XVI (Stipulated Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If EPA's disapproval or amendment is not otherwise revoked, substantially amended or superceded as a result of a decision or agreement reached pursuant to the Dispute Resolution process set forth in Section XV, stipulated penalties shall accrue for such violation from the date on which the initial submission was originally required, as provided in Section XVI.
61. In the event that EPA takes over some of the tasks, but not the preparation of the RI Report or the FS Report, Respondents shall incorporate and integrate information supplied by EPA into the final reports.

62. All plans, reports, and other deliverables submitted to EPA under this Order shall, upon approval or amendment by EPA, be incorporated into and enforceable under this Order. In the event EPA approves or amends a portion of a plan, report, or other deliverable submitted to EPA under this Order, the approved or amended portion shall be incorporated into and enforceable under this Order.
63. Neither failure of EPA to expressly approve or disapprove of Respondents' submissions within a specified time period, nor the absence of comments, shall be construed as approval by EPA. Whether or not EPA gives express approval for Respondents' deliverables, Respondents are responsible for preparing deliverables acceptable to EPA.

## **XI. QUALITY ASSURANCE, SAMPLING, AND ACCESS TO INFORMATION**

### **64. Quality Assurance**

Respondents shall assure that Work performed, samples taken and analyses conducted conform to the requirements of the SOW, the Quality Assurance Project Plan (QAPP), and guidances identified therein. Respondents will assure that field personnel used by Respondents are properly trained in the use of field equipment and in chain of custody procedures. Respondents shall only use laboratories which have a documented quality system that complies with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, March 2001) or equivalent documentation as determined by EPA.

### **65. Sampling**

- a. All results of sampling, tests, modeling or other data (including raw data) generated by Respondents, or on Respondents' behalf, during the period that this Order is effective, shall be submitted to EPA in the next bi-monthly progress report as described in Paragraph 53 of this Order ~~as well as the next weekly update as required in Paragraph 54~~. EPA will make available to Respondents validated data generated by EPA unless it is exempt from disclosure by any federal or state law or regulation.
- b. Respondents shall verbally notify EPA and the State at least ~~fifteen~~ ten (150) calendar days prior to conducting significant field events as described in the SOW, RI/FS Work Plan or Sampling and Analysis Plan. At EPA's verbal or written request, or the request of EPA's oversight assistant, Respondents shall allow split or duplicate samples to be taken by EPA (and its authorized representatives) or the State of any samples collected in implementing this Order. All split samples of Respondents shall be analyzed by the methods identified in the QAPP.

### **66. Access to Information**

- a. Respondents shall provide to EPA and the State, upon request, copies of all documents and information within their possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Order, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondents shall also make available to EPA and the State, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.
- b. Respondents may assert business confidentiality claims covering part or all of the documents or information submitted to EPA and the State under this Order to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when it is submitted to EPA and the State, or if EPA has notified Respondents that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondents. Respondents shall segregate and clearly identify all documents or information submitted under this Order for which Respondents assert business confidentiality claims.
- c. Respondents may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Respondents assert such a privilege in lieu of providing documents, they shall provide EPA and the State with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the contents of the document, record, or information; and (6) the privilege asserted by Respondents. However, no documents, reports or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.
- d. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

67. In entering into this Order, Respondents waive any objections to any data gathered, generated, or evaluated by EPA, the State, or Respondents in the performance or oversight of the Work that has been verified according to the quality assurance/quality control ("QA/QC") procedures required by the Order or any EPA-approved RI/FS Work Plans or Sampling and Analysis Plans. If Respondents object to any other data relating to the RI/FS, Respondents shall submit to EPA a report that specifically identifies and explains its objections, describes the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to EPA within fifteen (15) calendar days of the monthly progress report containing the data.

## **XII. SITE ACCESS AND INSTITUTIONAL CONTROLS**

68. If the Site, or any other property where access is needed to implement this Order, is owned or controlled by any of Respondents, such Respondents shall, commencing on the Effective Date, provide EPA, the State, and their representatives, including contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to this Order.
69. Where any action under this Order is to be performed in areas owned by or in possession of someone other than Respondents, Respondents shall use their best efforts to obtain all necessary access agreements within thirty (30) calendar days after the Effective Date, or as otherwise specified in writing by the EPA RPM. Respondents shall immediately notify EPA if after using their best efforts they are unable to obtain such agreements. For purposes of this Paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access to persons other than those identified by EPA or Respondents as potentially responsible parties. Respondents shall describe in writing their efforts to obtain access. If Respondents cannot obtain access agreements, EPA may either (i) obtain access for Respondents or assist Respondents in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as EPA deems appropriate; (ii) perform those tasks or activities with EPA contractors; or (iii) terminate the Order. Respondents shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XVIII (Special Account for Future Response Costs). If EPA performs those tasks or activities with EPA contractors and does not terminate the Order, Respondents shall perform all other tasks or activities not requiring access to that property, and shall reimburse EPA for all costs incurred in performing such tasks or activities. Respondents shall integrate the results of any such tasks or activities undertaken by EPA into its plans, reports and other deliverables.
70. Notwithstanding any provision of this Order, EPA and the State retain all of their access authorities and rights as well as all of their rights to require land/water use restrictions, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

### **XIII. COMPLIANCE WITH OTHER LAWS**

71. Respondents shall comply with all applicable local, state, and federal laws and regulations when performing the RI/FS. No local, state, or federal permit shall be required for any portion of any action conducted entirely on-site, including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Where any portion of the Work is to be conducted off-site and requires a federal or state permit or approval, Respondents shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals. This Order is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

### **XIV. RETENTION OF RECORDS**

72. During the pendency of this Order and for a minimum of 10 years after commencement of construction of any remedial action, each Respondent shall preserve and retain all non-identical copies of documents, records, and other information (including documents, records, or other information in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary. Until 10 years after commencement of construction of any remedial action, Respondents shall also instruct their contractors and agents to preserve all documents, records, and other information of whatever kind, nature or description relating to performance of the Work.
73. At the conclusion of this document retention period, Respondents shall notify EPA at least ninety (90) calendar days prior to the destruction of any such documents, records or other information, and, upon request by EPA, Respondents shall deliver any such documents, records, or other information to EPA. Respondents may assert that certain documents, records, and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondents assert such a privilege, they shall provide EPA with the following: 1) the title of the document, record, or other information; 2) the date of the document, record, or other information; 3) the name and title of the author of the document, record, or other information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or other information; and 6) the privilege asserted by Respondents. However, no documents, records or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.
74. Each Respondent hereby certifies individually that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies)



relating to its potential liability regarding the Site since ~~notification of potential liability by EPA or the filing of suit against it regarding the Site~~ the Effective Date of this Order and that it has fully complied with any and all EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

#### **XV. DISPUTE RESOLUTION**

75. Unless otherwise expressly provided for in this Order, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Order. The Parties shall attempt to resolve any disagreements concerning this Order expeditiously and informally.
76. If Respondents object to any EPA action taken pursuant to this Order, including billings for Future Response Costs, they shall notify EPA in writing of their objection(s) within fourteen (14) calendar days of such action, unless the objection(s) has/have been resolved informally. EPA and Respondents shall have fourteen (14) calendar days from EPA's receipt of Respondents' written objection(s) to resolve the dispute (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA. Such extension may be granted verbally but must be confirmed in writing.
77. Any agreement reached by the Parties pursuant to this Section shall be in writing and shall, upon signature by the Parties, be incorporated into and become an enforceable part of this Order. If the Parties are unable to reach an agreement within the Negotiation Period, Respondents may present their written position in person to the EPA's Branch Chief, Arkansas/Texas Branch. After review of the oral presentation and written materials detailing the dispute, the EPA Branch Chief, Arkansas/Texas Branch will issue a written decision. EPA's decision shall be incorporated into and become an enforceable part of this Order. Respondents' obligations under this Order shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondents shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs, and regardless of whether Respondents agree with the decision.

#### **XVI. STIPULATED PENALTIES**

78. Respondents shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 79 and 80 for failure to comply with any of the requirements of this Order specified below unless excused under Section XVII (Force Majeure). "Compliance" by Respondents shall include completion of the Work under this Order or any activities contemplated under any RI/FS Work Plan or other plan approved under this Order identified below, in accordance with all applicable requirements of law, this Order, the

SOW, and any plans or other documents approved by EPA pursuant to this Order and within the specified time schedules established by and approved under this Order.

79. Stipulated Penalty Amounts - Work

- a. The following stipulated penalties shall accrue per day for any noncompliance identified in Subparagraph 79(b):

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
(i) \$ 500	1st through 14th day
(ii) \$ <del>2,500</del> <u>000</u>	15th through 30th day
(iii) \$ <del>10</del> <u>5,000</u>	31st day and beyond

- b. Compliance Milestones:

- (i) An original and any revised work plan;
- (ii) An original and any revised sampling and analysis plan;
- (iii) An original and any revised Remedial Investigation Report;
- (iv) An original and any revised Baseline Human Health Risk Assessment Report;
- (v) An original and any revised Ecological Risk Screening Report;
- (vi) An original and any revised Baseline Ecological Risk assessment Report (if required);
- (vii) An original and any revised Treatability Testing work plan;
- (viii) An original and any revised Treatability Study Sampling and Analysis Plan; and
- (ix) An original and any revised Feasibility Study report.

- c. For all other deliverables, the following stipulated penalties shall accrue per day for any noncompliance:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
(i) \$ 250	1st through 14th day
(ii) \$ 1,000	15th through 30th day
(iii) \$ 2,000	31st day and beyond

80. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 102 of Section XX (Reservation of Rights by EPA), Respondents shall be liable for a stipulated penalty in the amount of \$10,000.



81. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (1) with respect to a deficient submission under Section X (EPA Approval of Plans and Other Submissions), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Respondents of any deficiency; and (2) with respect to a decision by the EPA Management Official designated in Paragraph 77 of Section XV (Dispute Resolution), during the period, if any, beginning on the 21st day after the Negotiation Period begins until the date that the EPA Management Official issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Order.
82. Following EPA's determination that Respondents have failed to comply with a requirement of this Order, EPA will give Respondents written notification of the same and describe the noncompliance. EPA may send Respondents a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondents of a violation.
83. All penalties accruing under this Section shall be due and payable to EPA within thirty (30) calendar days of Respondents' receipt from EPA of a demand for payment of the penalties, unless Respondents invoke the dispute resolution procedures in accordance with Section XV (Dispute Resolution). All payments to EPA under this Section shall be paid by Electronics Funds Transfer ("EFT") in accordance with current EFT procedures to be provided to Respondents by EPA Region 6, or by submitting a certified check. Certified checks should be made payable to the EPA Hazardous Substances Superfund. Checks should be forwarded to:

EPA Superfund - Gulfco Marine Maintenance Site (ID 06JZ)  
CERCLIS TXD055144539  
Superfund Accounting  
P.O. Box 360582M  
Pittsburgh, Pennsylvania 15251  
ATTN: COLLECTION OFFICER FOR SUPERFUND

Respondents shall indicate that the payment is for stipulated penalties, and shall reference "EPA Region 6", "Gulfco Marine Maintenance Superfund Site (ID 06JZ)", "CERCLIS # TXD055144539", "EPA Docket Number **CERCLA 06- \_\_ -04**", and the name and address of the party(ies) making payment on each check. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s) shall be sent to EPA as provided in Paragraph 45, and to

Chief, Superfund Cost Recovery Section (6SF-AC)

U.S. Environmental Protection Agency, Region 6  
1445 Ross Avenue  
Dallas, TX 75202-2733

The total amount to be paid by Respondents for stipulated penalties shall be deposited in the Gulfco Marine Maintenance Special Account within the EPA Hazardous Substance Superfund. This account is described in Section XVIII (Special Account for Future Response Costs). These amounts deposited in the Gulfco Marine Maintenance Special Account may be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

84. The payment of penalties shall not alter in any way Respondents' obligation to complete performance of the Work required under this Order.
85. Penalties shall continue to accrue as provided in Paragraph 81 during any dispute resolution period, but need not be paid until fifteen (15) calendar days after the dispute is resolved by agreement or by receipt of EPA's decision.
86. If Respondents fail to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. Respondents shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 84.
87. Nothing in this Order shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondents' violation of this Order or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(l) of CERCLA, 42 U.S.C. § 9622(l), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to Section 122(l) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of willful violation of this Order or in the event that EPA assumes performance of a portion or all of the Work pursuant to Section XX (Reservation of Rights by EPA), Paragraph 102. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Order.

**XVII. FORCE MAJEURE**

88. Respondents agree to perform all requirements of this Order within the time limits established under this Order, unless the performance is delayed by a force majeure. For purposes of this Order, force majeure is defined as any event arising from causes beyond

the control of Respondents or of any entity controlled by Respondents, including but not limited to their contractors and subcontractors, which delays or prevents performance of any obligation under this Order despite Respondents' best efforts to fulfill the obligation. Force majeure does not include financial inability to complete the Work or increased cost of performance.

89. If any event occurs or has occurred that may delay the performance of any obligation under this Order, whether or not caused by a force majeure event, Respondents shall notify EPA orally within three (3) calendar days of when Respondents first knew that the event might cause a delay. Within seven (7) calendar days thereafter, Respondents shall provide to EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondents' rationale for attributing such delay to a force majeure event if they intend to assert such a claim; and a statement as to whether, in the opinion of Respondents, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude Respondents from asserting any claim of force majeure for that event for the period of time of such failure to comply and for any additional delay caused by such failure.
90. If EPA agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Order that are affected by the force majeure event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify Respondents in writing of its decision. If EPA agrees that the delay is attributable to a force majeure event, EPA will notify Respondents in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

#### **XVIII. SPECIAL ACCOUNT FOR FUTURE RESPONSE COSTS**

91. Pursuant to the authority in Section 122(b)(3) of CERCLA, 42 U.S.C. Section 9622(b)(3), Respondents agree to pay to EPA all Future Response Costs not inconsistent with the National Contingency Plan in accordance with the procedures and time frames described in this Section. EPA shall establish a special account, the Gulfco Marine Maintenance Site Special Account ("Special Account", or "SA"), to retain funds provided by Respondents that the EPA shall use in connection with the performance of this Order. EPA shall use such funds for the payment of future response costs and oversight costs in connection with the performance of this Order. The total amount to be paid by Respondents shall be deposited in this Special Account. EPA has estimated that the

amount of Response Costs that will be expended at this Site on an annual basis will be \$1500,000 (hereinafter referred to as the "SA Startup"). ~~This amount also includes up to \$50,000 which the EPA, in consultation with Respondents, plans to award to a local community group as a Technical Assistance Grant~~

92. Response costs include all future response costs as well as costs incurred by the United States in overseeing Respondents' implementation of the requirements of this Order and activities performed by the government as part of the RI/FS and community relations, including: time and travel costs of EPA and associated indirect costs, contractor costs, attorney costs, cooperative agreement costs, technical assistance grant costs, compliance monitoring, collection and analysis of split samples, inspection of RI/FS activities, Site visits, discussions regarding disputes that arise under this Order, review and approval or disapproval of reports, costs of obtaining access to property as may be necessary to carry out activities required under this Order, costs of performing risk assessment, costs of redoing any of Respondents' tasks, and all other direct and indirect costs, and interest.
93. Within thirty (30) calendar days of the Effective Date of this Order, Respondents shall pay the EPA \$1500,000 to be deposited in the Gulfco Marine Maintenance Site Special Account by EFT, in accordance with EFT instructions provided by EPA, or by submitting a certified check. Certified checks should be made payable to the Hazardous Substances Superfund. Checks should be forwarded to:

EPA Superfund - Gulfco Marine Maintenance Site (06JZ)  
CERCLIS TXD055144539  
Superfund Accounting  
P.O. Box 360582M  
Pittsburgh, Pennsylvania 15251  
ATTN: COLLECTION OFFICER FOR SUPERFUND

Respondents shall indicate that the payment is for future response costs, and shall reference "EPA Region 6", "Gulfco Marine Maintenance Superfund Site (ID 06JZ)", "CERCLIS # TXD055144539", "EPA Docket Number **CERCLA 06- \_\_ -04**", and the name and address of the party(ies) making payment on each check. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s) shall be sent to EPA as provided in Paragraph 45, and to

Chief, Superfund Cost Recovery Section (6SF-AC)  
U.S. Environmental Protection Agency, Region 6  
1445 Ross Avenue  
Dallas, TX 75202-2733

94. If Respondents do not pay Future Response Costs within thirty (30) calendar days of Respondents' receipt of a bill, Respondents shall pay Interest on the unpaid balance of

Future Response Costs. The Interest on unpaid Future Response Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. If EPA receives a partial payment, Interest shall accrue on any unpaid balance. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondents' failure to make timely payments under this Section, including but not limited to, payments of stipulated penalties pursuant to Section XVI. Respondents shall make all payments required by this Paragraph in the manner described in Paragraph 93.

95. In addition, EPA will submit to Respondents an accounting summary of Response Costs paid (debited) from the Special Account since the Effective Date of this Order. The Future Response Costs accounting summary shall be in the form of an unreconciled SCORPIOS cost summary report or some equivalent unreconciled EPA accounting summary. If Respondents need more detailed information about a specific cost summarized on the SCORPIOS Report, Respondents may contact in writing the RPM to inquire about the specific details. The RPM will, within fourteen (14) calendar days of such contact, attempt to provide the requested information. After the expiration of this 14-day period, Respondents may request that EPA prepare and certify a Response Cost accounting of some or all Response Costs paid since the effective date of this Order. The EPA's cost of preparing the certified Response Cost accounting is a Response Cost payable from the Special Account.
96. Whenever the Special Account is drawn down to a balance of approximately \$20,000, EPA will send a notice to Respondents and will provide an adjusted estimate of Future Response Costs to be expended annually. Respondents shall, within twenty (20) calendar days of receipt of a notice and Response Cost accounting summary (i.e., the SCORPIOS report or its equivalent), remit to the Special Account (by EFT, certified check, or cashier's check) the amount EPA identifies as necessary to replenish the Special Account to a balance of \$1500,000 or to replenish the account to a balance of EPA's adjusted estimate of Response Costs to be expended annually (whichever amount is greater). If the Special Account is depleted to an amount of \$10,000 or less at the time EPA submits a notification and cost accounting summary to Respondents, Respondents shall pay, within ten (10) calendar days of EPA's notice, \$30,000 to the Special Account. Respondents shall remit the remaining amount to replenish the Special Account to \$1500,000 or to the amount of EPA's adjusted estimate of annual Response Costs (whichever amount is greater). Respondents shall make such payments according to the procedures described in Paragraph 93. Neither dispute resolution nor a request to the RPM for more detailed information nor a request for a certified cost accounting shall delay the date that Respondents' payments are due under this paragraph.
97. EPA will remit and return to Respondents the difference between any balance in the Special Account and the annual Response Costs estimated in Paragraph 91 that remains on the date of termination of this Order, or "rollover" the balance to another oversight



account for the benefit of the Respondents in any subsequent action on this Site, for which the Respondents assume the lead. Termination and satisfaction of the terms of this Order will be in accordance with Section XXX (Notice of Completion of Work). EPA's obligation to return funds to Respondents from the Special Account shall terminate upon EPA's assumption of performance of any portion of the work pursuant to this Order.

98. Respondents may contest payment of any Future Response Costs if they determine that EPA has made an accounting error or if they believe EPA incurred excess costs as a direct result of an EPA action that was inconsistent with the NCP. Such objection shall be made in writing within thirty (30) calendar days of receipt of the bill and must be sent to the RPM. Any such objection shall specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection, Respondents shall within the thirty (30) calendar day period pay all uncontested Future Response Costs to EPA in the manner described in this Section. Simultaneously, Respondents shall establish an interest-bearing escrow account in a federally-insured bank duly chartered in the State of Texas and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. Respondents shall send to the RPM a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, Respondents shall initiate the Dispute Resolution procedures in Section XV (Dispute Resolution). If EPA prevails in the dispute, within five (5) calendar days of the resolution of the dispute, Respondents shall pay the sums due (with accrued interest) to EPA in the manner described in this Section. If Respondents prevail concerning any aspect of the contested costs, Respondents shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to EPA in the manner described in this Section. Respondents shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XV (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding Respondents' obligation to reimburse EPA for its Future Response Costs.

#### **XIX. COVENANT NOT TO SUE BY EPA**

99. In consideration of the actions that will be performed and the payments that will be made by Respondents under the terms of this Order, and except as otherwise specifically provided in this Order, EPA covenants not to sue or to take administrative action against Respondents pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work performed under this Order and for recovery of Future Response Costs. This covenant not to sue shall take effect upon receipt of money in the Special

Account for Future Response Costs. This covenant not to sue is conditioned upon the complete and satisfactory performance by Respondents of their obligations under this Order, including, but not limited to, payment of Future Response Costs pursuant to Section XVIII. This covenant not to sue extends only to Respondents and does not extend to any other person.

## **XX. RESERVATIONS OF RIGHTS BY EPA**

100. Except as specifically provided in this Order, nothing herein shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law.
101. The covenant not to sue set forth in Section XIX above does not pertain to any matters other than those expressly identified therein. EPA reserves, and this Order is without prejudice to, all rights against Respondents with respect to all other matters, including, but not limited to:
  - a. Claims based on a failure by Respondents to meet a requirement of this Order;
  - b. Liability for costs not included within the definition of Future Response Costs;
  - c. Liability for performance of response action other than the Work;
  - d. Criminal liability;
  - e. Liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
  - f. Liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and
  - g. Liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site.



102. Work Takeover

In the event EPA determines that Respondents have ceased implementation of any portion of the Work, are seriously or repeatedly deficient or late in their performance of the Work, or are implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portion of the Work as EPA determines necessary. Respondents may invoke the procedures set forth in Section XV (Dispute Resolution) to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by EPA in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Respondents shall pay pursuant to Section XVIII (Special Account for Future Response Costs). Notwithstanding any other provision of this Order, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

**XXI. COVENANT NOT TO SUE BY RESPONDENTS**

103. Respondents covenant not to sue and agree not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Future Response Costs, or this Order, including, but not limited to:
- a. Any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;
  - b. Any claim arising out of the Work or arising out of the response actions for which the Future Response Costs have or will be incurred, including any claim under the United States Constitution, the State Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or
  - c. Any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Work or payment of Future Response Costs.
104. These covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to the reservations set forth in Paragraphs 101 (b), (c), and (e) - (g), but only to the extent that Respondents' claims arise from the same

response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

105. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

## **XXII. OTHER CLAIMS**

106. By issuance of this Order, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents.
107. Except as expressly provided in Section XIX (Covenant Not to Sue by EPA), nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.
108. No action or decision by EPA pursuant to this Order shall give rise to any right to judicial review except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

## **XXIII. CONTRIBUTION PROTECTION**

109. The Parties agree that Respondents are entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for “matters addressed” in this Order. The “matters addressed” in this Order are the Work and Future Response Costs. Except as provided in Section XXI (Covenant Not to Sue by Respondents), nothing in this Order precludes the United States or Respondents from asserting any claims, causes of action, or demands against any person not parties to this Order ~~for indemnification, contribution, or cost recovery.~~

## **XXIV. INDEMNIFICATION**

110. Respondents shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, or

subcontractors, in carrying out actions pursuant to this Order. In addition, Respondents agree to pay the United States all costs incurred by the United States, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, subcontractors and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Order. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondents in carrying out activities pursuant to this Order. Neither Respondents nor any such contractor shall be considered an agent of the United States.

## **XXV. INSURANCE**

111. At least twenty (20) calendar days prior to commencing any On-Site Work under this Order, Respondents shall secure, and shall maintain for the duration of this Order, comprehensive general liability (“CGL”) insurance and automobile insurance with limits of \$5,000,000 combined single limit, naming the EPA as an additional insured. The CGL insurance must include Contractual Liability Insurance in the amount of \$1,000,000 per occurrence, and Umbrella Liability Insurance in the amount of \$2,000,000 per occurrence. Within the same period, Respondents shall provide EPA with certificates of such insurance and a copy of each insurance policy. Respondents shall submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Order, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker’s compensation insurance for all persons performing the Work on behalf of Respondents in furtherance of this Order. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondents need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.
112. The United States shall give Respondents notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondents prior to settling such claim.
113. Respondents waive all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on

account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site. In addition, Respondents shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site.

## **XXVI. FINANCIAL ASSURANCE**

114. Within thirty (30) calendar days of the Effective Date, Respondents shall establish and maintain financial security for the benefit of EPA in the amount of ~~\$1,000~~\$750,000 in one or more of the following forms, in order to secure the full and final completion of Work by Respondents:
- a. A surety bond unconditionally guaranteeing payment and/or performance of the Work;
  - b. One or more irrevocable letters of credit, payable to or at the direction of EPA, issued by financial institution(s) acceptable in all respects to EPA equaling the total estimated cost of the Work;
  - c. A trust fund administered by a trustee acceptable in all respects to EPA;
  - d. A policy of insurance issued by an insurance carrier acceptable in all respects to EPA, which ensures the payment and/or performance of the Work;
  - e. An escrow account administered by a trustee acceptable in all respects to EPA, which ensures the payment and/or performance of the Work;
  - f. A corporate guarantee to perform the Work provided by one or more parent corporations or subsidiaries of Respondents, or by one or more unrelated corporations that have a substantial business relationship with at least one of Respondents; including a demonstration that any such company satisfies the financial test requirements of 40 C.F.R. Part 264.143(f); and/or
  - g. A corporate guarantee to perform the Work by one or more of Respondents, including a demonstration that any such Respondent satisfies the requirements of 40 C.F.R. Part 264.143(f).

115. Any and all financial assurance instruments provided pursuant to this Section shall be in form and substance satisfactory to EPA, determined in EPA's sole discretion. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section (including, without limitation, the instrument(s) evidencing such assurances) are inadequate, Respondents shall, within thirty (30) calendar days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 114 above. In addition, if at any time EPA notifies Respondents that the anticipated cost of completing the Work has increased, then, within thirty (30) calendar days of such notification, Respondents shall obtain and present to EPA for approval a revised form of financial assurance (otherwise acceptable under this Section) that reflects such cost increase. Respondents' inability to demonstrate financial ability to complete the Work shall in no way excuse performance of any activities required under this Order.
116. If Respondents seek to ensure completion of the Work through a guarantee pursuant to Subparagraph 114(f) or 117(g) of this Order, Respondents shall (i) demonstrate to EPA's satisfaction that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f); and (ii) resubmit sworn statements conveying the information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the Effective Date, to EPA. For the purposes of this Order, wherever 40 C.F.R. Part 264.143(g) references "sum of current closure and post-closure costs estimates and the current plugging and abandonment costs estimates," the current cost estimate of ~~\$1,000~~\$750,000 for the Work at the Site shall be used in relevant financial test calculations.
117. If, after the Effective Date, Respondents can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 114 of this Section, Respondents may, on any anniversary date of the Effective Date, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining Work to be performed. Respondents shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security after receiving written approval from EPA. In the event of a dispute, Respondents may seek dispute resolution pursuant to Section XV (Dispute Resolution). Respondents may reduce the amount of security in accordance with EPA's written decision resolving the dispute. The obligation to maintain financial assurance shall terminate upon the full and final completion of Work by Respondents.

118. Respondents may change the form of financial assurance provided under this Section at any time, upon notice to and prior written approval by EPA, provided that EPA determines that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondents may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

#### **XXVII. INTEGRATION/APPENDICES**

119. This Order and its appendices and any deliverables, technical memoranda, specifications, schedules, documents, plans, reports (other than progress reports), etc. that will be developed pursuant to this Order and become incorporated into and enforceable under this Order constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Order. The parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Order. The following appendices are attached to and incorporated into this Order:
- a. “Appendix A” is a list of the Respondents.
  - b. “Appendix B” is the SOW.
  - c. “Appendix C” is the map of the Site.

#### **XXVIII. ADMINISTRATIVE RECORD**

120. EPA will determine the contents of the administrative record file for selection of the remedial action. Respondents shall submit to EPA documents developed during the course of the RI/FS upon which selection of the response action may be based. Upon request of EPA, Respondents shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports and other reports. Upon request of EPA, Respondents shall additionally submit any previous studies conducted under state, local or other federal authorities relating to selection of the response action, and all communications between Respondents and state, local or other federal authorities concerning selection of the response action. At EPA’s discretion, Respondents shall establish a community information repository at or near the Site, to house one copy of the administrative record.

**XXIX. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION**

121. The Effective Date of this Order will be the date its is signed by EPA.
122. This Order may be amended by mutual agreement of EPA and Respondents. Amendments shall be in writing and shall be effective when signed by EPA. The EPA RPM does not have the authority to sign amendments to the Order.
123. No informal advice, guidance, suggestion, or comment by the EPA RPM or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondents shall relieve Respondents of their obligation to obtain any formal approval required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

**XXX. NOTICE OF COMPLETION OF WORK**

124. When EPA determines that all Work has been fully performed in accordance with this Order, with the exception of any continuing obligations required by this Order, including but not limited to payment of Future Response Costs or record retention, EPA will provide written notice to Respondents. If EPA determines that any such Work has not been completed in accordance with this Order, EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents amend the RI/FS Work Plan if appropriate in order to correct such deficiencies, in accordance with Paragraph 50 (Amendment of the Work Plan). Failure by Respondents to implement the approved modified RI/FS Work Plan shall be a violation of this Order.

IT IS SO AGREED AND ORDERED

U.S. Environmental Protection Agency

BY: \_\_\_\_\_ DATE: \_\_\_\_\_

Sam Coleman, P.E.



Director  
Superfund Division, Region 6

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## **APPENDIX A**

### **LIST OF POTENTIALLY RESPONSIBLE PARTIES GULFCO MARINE MAINTENANCE SUPERFUND SITE**

**1. Dow Chemical Company**

CT Corporation System  
Registered Agent for  
Dow Chemical Company  
350 N. St. Paul St., Suite 2400  
Dallas, TX 75201

Dow Chemical Company  
3020 Dow Center  
Midland, MI 48674

**2. LDL Coastal Limited L.P.**

LDL Coastal Limited L.P.  
906 Marlin Dr., CR 756  
Freeport, TX 77541

LDL Management, LLC  
906 Marlin Dr., CR 756  
Freeport, TX 77541

**3. Sequa Corporation**

Chromalloy American Corporation  
c/o Sequa Corporation  
111 Eighth Avenue  
New York, NY 10019

CT Corp. System, Registered Agent  
for Sequa Corporation  
350 No. St. Paul St.  
Dallas, TX 752011

**APPENDIX B**

**STATEMENT OF WORK (SOW)**

**APPENDIX NOT INCLUDED**

**APPENDIX C**

**GULFCO MARINE MAINTENANCE SUPERFUND SITE**  
**SITE MAP**



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_____	)	DRAFT
IN THE MATTER OF:	)	<b>ADMINISTRATIVE ORDER ON</b>
	)	<b>CONSENT FOR REMEDIAL</b>
<b>Gulfco Marine Maintenance</b>	)	<b>INVESTIGATION/FEASIBILITY</b>
	)	<b>STUDY</b>
<b>Superfund Site</b>	)	
<b>Freeport, Texas</b>	)	
	)	
	)	U.S. EPA REGION 6
<b>RESPONDENTS LISTED IN</b>	)	CERCLA Docket No. 06-_____
<b>APPENDIX A</b>	)	
	)	
	)	
	)	Proceeding under Sections 104, 107, 122 (a)
	)	and 122(d)(3) of the Comprehensive
	)	Environmental Response, Compensation,
	)	and Liability Act, 42 U.S.C. §§ 9604, 9607
	)	9622(a) and 9622(d)(3)
	)	
_____	)	

## ADMINISTRATIVE ORDER ON CONSENT FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY

### I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Order on Consent ("Order") is entered into voluntarily by the United States Environmental Protection Agency ("EPA") and the Respondents listed in Appendix A ("Respondents"). The Order concerns the preparation and performance of a Remedial Investigation and Feasibility Study ("RI/FS") at the Gulfco Marine Maintenance Site located at 906 Marlin Avenue in Freeport, Brazoria County, Texas ("Site") and the reimbursement for future response costs incurred by EPA in connection with the RI/FS.
  
2. This Order is issued under the authority vested in the President of the United States by Sections 104, 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §§ 9604, 9607 and 9622 ("CERCLA"). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2926 (Jan. 29, 1987), and further

delegated to Regional Administrators on May 11, 1994, by EPA Delegation Nos. 14-14-C and 14-14-D. This authority was further redelegated by the Regional Administrator of EPA Region 6 to the Director, Superfund Division, by EPA Delegation Nos. R6-14-14-C and R6-14-14-D (June 8, 2001).

3. In accordance with Sections 104(b)(2) and 122(j)(1) of CERCLA, 42 U.S.C. §§ 9604(b)(2) and 9622(j)(1), EPA notified the U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Department of the Interior, U.S. Geological Survey, Texas Commission on Environmental Quality, Texas Parks and Wildlife Department, and the Texas General Land Office of negotiations with potentially responsible parties regarding the release of hazardous substances that may have resulted in injury to the natural resources under Federal and/or State trusteeship.
4. EPA and Respondents recognize that this Order has been negotiated in good faith and that the actions undertaken by Respondents in accordance with this Order do not constitute an admission of any liability. Respondents do not admit, and retain the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Order, the validity of the findings of fact, conclusions of law, and determinations in Sections V and VI of this Order. Respondents agree to comply with and be bound by the terms of this Order and further agree that they will not contest the basis or validity of this Order or its terms.

## **II. PARTIES BOUND**

5. This Order applies to and is binding upon EPA and upon Respondents and their successors and assigns. Any change in ownership or corporate status of a Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent's responsibilities under this Order.
6. Respondents are jointly and severally liable for carrying out all activities required by this Order. In the event of the insolvency or other failure of any one or more Respondents to implement the requirements of this Order, the remaining Respondents shall complete all such requirements.
7. Respondents shall ensure that their contractors, subcontractors, and representatives receive a copy of this Order and comply with this Order. Respondents shall be responsible for any noncompliance with this Order.
8. Each undersigned representative of Respondents certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to execute and legally bind Respondents to this Order.

### III. STATEMENT OF PURPOSE

9. In entering into this Order, the objectives of EPA and Respondents are: (a) to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants at or from the Site, by conducting a Remedial Investigation as more specifically set forth in the Statement of Work ("SOW") attached as Appendix B to this Order; (b) to identify and evaluate remedial alternatives to prevent, mitigate or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site, by conducting a Feasibility Study as more specifically set forth in the SOW in Appendix B to this Order; and (c) to recover response and oversight costs incurred by EPA with respect to this Order.
10. The Work conducted under this Order is subject to approval by EPA and shall provide all appropriate and necessary information to assess Site conditions and evaluate alternatives to the extent necessary to select a remedy that will be consistent with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300 ("NCP"). Respondents shall conduct all Work under this Order in compliance with CERCLA, the NCP, and all applicable EPA guidances, policies, and procedures.

### IV. DEFINITIONS

11. Unless otherwise expressly provided herein, terms used in this Consent Order which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Order, or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:
  - a. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. § 9601 *et seq.*
  - b. "Consent Order" or "Order" shall mean this Consent Order and all appendices attached hereto, and any amendments pursuant to Section XXIX of this Order. In the event of a conflict between this Consent Order and any appendix, this Consent Order shall control.
  - c. "Contaminant" shall mean any hazardous substances and pollutants as defined by Sections 101(14) and 101(32) of CERCLA, 42 U.S.C. §§ 9601(14) and 9601(32).
  - d. "Day" shall mean calendar day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next working day.

- e. “Effective Date” shall be the effective date of this Order as provided in Section XXXI.
- f. “Engineering Controls” shall mean constructed containment barriers or systems that control one or more of the following: downward migration, infiltration or seepage of surface runoff or rain; or natural leaching migration of contaminants through the subsurface over time. Examples include caps, engineered bottom barriers, immobilization processes, and vertical barriers.
- g. “EPA” shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.
- h. “Future Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Order, verifying the Work, or otherwise implementing, overseeing, or enforcing this Order, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, Agency for Toxic Substances and Disease Registry (“ATSDR”) costs, the costs incurred pursuant to Paragraph 69 (costs and attorneys fees and any monies paid to secure access, including the amount of just compensation), Paragraph 55 (emergency response), and Paragraph 102 (work takeover).
- i. “Institutional controls” shall mean non-engineered instruments, such as administrative and/or legal controls, that help to minimize the potential for human exposure to contamination and/or protect the integrity of a remedy by limiting land and/or resource use. Examples of institutional controls include easements and covenants, zoning restrictions, special building permit requirements, and well drilling prohibitions.
- j. “Interest” shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.
- k. “National Contingency Plan” or “NCP” shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.
- l. “Order” shall mean this Administrative Order on Consent, the SOW, all appendices attached hereto (listed in Section XXVII) and all documents

incorporated by reference into this document including without limitation EPA approved submissions. EPA approved submissions (other than progress reports) are incorporated into and become a part of the Order upon approval by EPA. In the event of conflict between this Order and any appendix or other incorporated documents, this Order shall control.

- m. “Paragraph” shall mean a portion of this Order identified by an Arabic numeral. References to paragraphs in the SOW will be so identified (for example, “SOW paragraph 15”).
- n. “Parties” shall mean EPA and the Respondents.
- o. “Respondents”, listed in Appendix A, shall mean all Potentially Responsible Parties (“PRPs”) who have entered into this Consent Order. If additional parties sign this Consent Order, they shall become Respondents to this Order as of the date of their signing.
- p. “Section” shall mean a portion of this Order identified by a Roman numeral. References to sections in the SOW will be so identified; for example as “SOW Section V.”
- q. “Site” shall mean the Gulfco Marine Maintenance Superfund Site located in Freeport, Brazoria County, Texas, encompassing approximately 40 acres on the north shore of the Intracoastal Waterway and depicted generally on the map attached as Appendix C.
- r. “State” shall mean the State of Texas.
- s. “Statement of Work” or “SOW” shall mean the Statement of Work for development of a RI/FS for the Site as set forth in Appendix B to this Order. The Statement of Work is incorporated into this Order and is an enforceable part of this Order as are any modifications made thereto in accordance with this Order.
- t. “TCEQ” shall mean the Texas Commission on Environmental Quality (formerly known as the Texas Natural Resource Conservation Commission [“TNRCC”]) and any successor departments or agencies of the State of Texas.
- u. “Waste Material” shall mean (1) any “hazardous substance” under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and (3) any “solid waste” under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

- v. "Work" shall mean all activities Respondents are required to perform under this Order, except those required by Section XIV (Retention of Records).

## **V. FINDINGS OF FACT**

12. The Site is an inactive barge cleaning facility where waste disposal occurred. The Site consists of approximately 40 acres located one mile east of Highway 332 at 906 Marlin Avenue in Freeport, Brazoria County, Texas. The geographic coordinates are 28°58'07" north latitude, and 95°17'26" west longitude.
13. The Site borders 2170 feet of the north shore of the Intracoastal Waterway between Oyster Creek on the east and the Old Brazos River Channel and the Dow Barge Canal on the west. The Site is within an area of 100-year coastal flood with velocity (wave action). The southern part of the Site, south of Marlin Avenue, drains toward the south where it enters into the Intracoastal Waterway. Drainage from the Site area north of Marlin Avenue is to the northeast into adjacent wetlands. These wetlands extend approximately 0.48 miles to Oyster Creek.
14. A residential development exists approximately 500 feet southwest of the Site on the Intracoastal Waterway. According to U.S. Census data from 2000, there are 56 housing units and 61 residents within one-half mile of the Site. The nearest industrial facility to the Site, Offshore Services, Inc., is located adjacent to the Site on the east. This facility is a docking and staging area for supplying fuel, drilling mud, chemical additives, and cement to offshore drilling rigs.
15. According to the National Wetlands Inventory map for the Freeport Quadrangle, the wetlands north of the Site are estuarine, intertidal, emergent, persistent, and irregularly flooded.
16. The Site was operated by Gulfco Marine Maintenance, Inc., from 1971 through 1979. Fish Engineering and Construction, Inc., owned the Site from 1979 until 1989, when the majority of the Site, including Lots 21 through 25, and Lots 55, 57, and 58 (approximately 35 acres), was sold to Hercules Offshore Corporation (later Hercules Marine Services Corporation). LDL Coastal Limited LP acquired Hercules Marine Services' interest in the Site in a bankruptcy sale in 1999. The remaining lot, Lot 56 (approximately five acres), was transferred by deed to Jack Palmer and Ron Hudson in 1999.
17. The primary Site operations consisted of draining, cleaning, servicing, and repair of various chemical barges. The barge repair work included welding, sandblasting, and painting. The Site also included three surface impoundments, which were earthen pits with natural clay liners located on Lot 56. Beginning in 1971, the impoundments were used for storage of waste oils, caustics, various organic chemicals, and waste wash waters



generated during barge cleaning activities. The impoundments were deactivated in October 1981 and closed in 1982 after the state approved its hazardous waste closure plan. Later operations used floating barges and above ground storage tanks to store the barge wash waters.

18. According to a letter from Fish Engineering & Construction, Inc., to the Texas Air Control Board, dated April 14, 1982, between June 1980 and August 1981, the barge cargoes for washing at the Site included: fuel oil, crude oil, diesel, oil residues, gas oil, benzene, xylene, toluene, cyclo-hexane, cumene, ethyl benzene, styrene, hydrochloric acid, glycols, methanol, butanol, chloroform, perchloroethylene, vinyl chloride, acetone, methyl ethyl ketone, and vinyl acetate among other barge cargoes.
19. According to the "Site Inspection Report", dated July 15, 1980, prepared by the Texas Commission on Environmental Quality Site Assessment & Management Section, formerly known as the Texas Natural Resource Conservation Commission, discharges occurred from the waste impoundments in July 1974 and August 1979.
20. According to the "Screening Site Inspection Report", dated July 2000 ("SSI Report"), prepared by the Texas Natural Resource Conservation Commission (TNRCC), and the "HRS Documentation Record, Gulfco Marine Maintenance Site", dated February 2002 ("HRS Report"), prepared by TNRCC, the site included two barge slips, a dry dock area, and various above ground tanks used for storage of product drained from the barges prior to cleaning.
21. According to the "Site Characterization Report", dated June 1999, prepared by LT Environmental, Inc. ("LTE"), for LDL Coastal, Inc. ("LTE Report", the tank farm area at the Site originally consisted of 12 product above ground storage tanks and four wash water above ground storage tanks. The tank farm area had no levees or containment dikes in 1989 during the EPA Site visit. The tank farm currently is contained in a concrete berm. LTE conducted sampling of the tanks in March 1999 and identified the following hazardous substances: acetone; benzene; 2-butanone, chloroform; 1,1-dichloroethane; 1,2-dichloroethane; carbon tetrachloride; ethylbenzene; 4-methyl-2-pentanone; methylene chloride; naphthalene; styrene; tetrachloroethylene; toluene; 1,1,1-trichloroethane; trichloroethylene; Arochlor 1254; and xylenes.
22. In September 1999, LDL Coastal Limited, L.P., arranged for the removal of 45 drums containing hazardous waste from the Site property.
23. According to the SSI Report, in January 2000, the Texas Natural Resource Conservation Commission (now known as the Texas Commission on Environmental Quality) conducted sampling activities at the Site. The sampling results documented hazardous substances above background concentrations and above the sample quantitation limit in the soil at the Site as follows:

Hazardous Substance	Maximum Soil Concentration, mg/kg	
	Site	Background
methylene chloride	0.025J	0.006
phenanthrene	2.5	ND (0.44)
fluoranthene	5.1	ND (0.44)
pyrene	4.4	ND (0.44)
benzo(a)anthracene	2.4	ND (0.44)
benzo(b)fluoranthene	2.7	ND (0.44)
benzo(k)fluoranthene	2.5	ND (0.44)
benzo(a)pyrene	2.6	ND (0.44)
benzo(g,h,i)perylene	2.4J	ND (0.44)
chrysene	2.8	ND (0.44)
ideno(1,2,3-cd)pyrene	2.2	ND (0.44)
alpha-chlordane	0.0084 ^	ND (0.0022)
gamma-chlordane	0.020	ND (0.0022)
dieldrin	0.015J	ND (0.0043)
4,4'-DDT	0.015J	ND (0.0043)
endrin aldehyde	0.018J^	ND (0.0043)
Arochlor-1254 (PCB)	0.150	ND (0.043)
lead	221^	14.3
zinc	1150	50.1

*ND = Not detected at the reported sample quantitation limit (SQL)*

*J, J^, Jv = sample results are estimated and/or biased high/low due to a quality control problem*

*^ = High biased. Actual concentration may be lower than the concentration reported.*

24. According to the SSI Report, in January 2000, the Texas Natural Resource Conservation Commission (now known as the Texas Commission on Environmental Quality) conducted sampling activities in the Intracoastal Waterway adjacent to the southern boundary of the Site. The sampling results documented releases of hazardous substances from the Site to the sediment in the Intracoastal Waterway as follows:

Hazardous Substance	Maximum Sediment Concentration, mg/kg	
	Adjacent to Site	Background
phenanthrene	1.2	ND (0.490)
fluoranthene	2.0	ND (0.490)
pyrene	2.0	ND (0.490)
bis(2-ethylhexyl)phthalate	1.2	0.150
gamma-chlordane	0.0055	ND ( 0.0026)
heptachlor-epoxide	0.0038	ND ( 0.0026)
lead	46.8	12.6
zinc	314	54.4

*ND = Not detected at the reported sample quantitation limit (SQL)*

25. According to the HRS Report, the Intracoastal Waterway is considered a fishery. Photographs taken during the January 2000 SSI sampling event documented the Intracoastal Waterway as being a fishery.
26. According to the HRS Report, a hazardous substance with a bio-accumulation potential factor (measure that reflects the tendency for a substance to accumulate in the tissue of an aquatic organism) of 500 or greater that is present in the sediment of a fishery is a potential threat to contamination of the human food chain. The hazardous substances present in Intracoastal Waterway sediment that are identified as releases from the Site having bio-accumulation potential factors greater than 500 are as follows:

<b>Hazardous Substance</b>	<b>Bio-Accumulation Potential Factor</b>
fluoranthene	5,000
pyrene	5,000
bis(2-ethylhexyl)phthalate	50,000
gamma-chlordane	50,000
lead	5,000
zinc	50,000

27. According to the HRS Report, in January 2001, the Texas Natural Resource Conservation Commission (now known as the Texas Commission on Environmental Quality) conducted sampling of the shallow ground water at the Site. The ground water samples were collected from temporary monitor wells screened between depths of 10 feet and 24 feet. The sampling results documented releases of hazardous substances from the Site to the ground water as follows:

<b>Hazardous Substance</b>	<b>Maximum Ground Water Concentration, mg/L</b>	
	<b>Site</b>	<b>Background</b>
benzene	18LJ	ND (0.010)
carbon disulfide	0.048J	ND (0.010)
chloroform	1.2LJ	ND (0.010)
1,1-dichloroethane	12	ND (0.010)
1,2-dichloroethane	2,800Jv	ND (0.010)
1,1-dichloroethene	30	ND (0.010)
1,2-dichloropropane	2.1J	ND (0.010)
ethyl benzene	0.040	ND (0.010)
methylene chloride	750Jv	ND (0.010)
4-methyl-2-pentanone	0.30J	ND (0.010)
tetrachloroethene	29LJ	ND (0.010)
toluene	0.78LJ	ND (0.010)

Hazardous Substance	Maximum Ground Water Concentration, mg/L	
	Site	Background
1,1,1-trichloroethane	93	ND (0.010)
1,1,2-trichloroethane	0.046	ND (0.010)
trichloroethene	92	ND (0.010)
vinyl chloride	17	ND (0.010)
xylene	0.130	ND (0.010)
acetophenone	0.120	ND (0.010)
phenol	0.051	ND (0.010)
naphthalene	0.230	ND (0.010)
aldrin	0.000099J	ND (0.00005)
alpha-BHC	0.00048J	ND (0.00005)
beta-BHC	0.00075J	ND (0.00005)
delta-BHC	0.000092J	ND (0.00005)
gamma-BHC (lindane)	0.00059J	ND (0.00005)
endrin	0.00032J	ND (0.0001)
endosulfan II	0.00042J	ND (0.0001)
4,4'-DDT	0.0014J	ND (0.0001)
arsenic	0.0777	0.00102
cobalt	0.0669	0.0174
copper	0.273	0.0364
lead	0.0947	0.0244
manganese	14.1	2.81
nickel	0.217	0.0468
vanadium	0.196	0.0649

*ND = Not detected at the reported sample quantitation limit (SQL)*

*J, J<sup>^</sup>, J<sub>v</sub> = sample results are estimated and/or biased high/low due to a quality control problem.*

*L = Reported concentration is below the CRQL.*

28. According to the "Screening Site Inspection of Fish Engineering and Construction, Inc." Report, undated, prepared by Ecology and Environment, Inc., for EPA, ground water at the Site flows to the southeast. The closest water supply well (Well BH8106-303) was on the west adjacent property to the Site, and was used for a public marina until 1984. The well was 199 feet deep and was screened from a depth of 188 feet to 198 feet.
29. According to the memorandum "Environmental Priority Initiative (EPI) Preliminary Assessment of Fish Engineering Construction, Inc.", dated August 2, 1989, from Jairo Guevara to Ed Sierra, the City of Freeport was previously supplied by ground water from seven wells at depths of 200 feet. These wells were used until 1989 when they were replaced by surface water reservoirs, and subsequently the wells were used as a backup system.
30. The hazardous substances identified above, under certain conditions of dose, duration, or extent of exposure, may produce adverse health and environmental effects. A number of these hazardous substances have been identified as probable carcinogens.
31. A Public Health Assessment ("PHA") of the Site was prepared by the Texas Department of Health for the Agency for Toxic Substances and Disease Registry on April 19, 2004.
32. The Site was proposed for listing on the National Priorities List ("NPL") on September 5, 2002 (67 FR 56794), and was placed on the NPL effective May 30, 2003, in a final rulemaking published on April 30, 2003 (68 FR 23077).
33. Respondent LDL Coastal Limited L.P. is a domestic limited partnership incorporated in the state of Texas. LDL Coastal Limited L.P. is the current owner of certain parts of the Site, including Track numbers 21, 21A, 21B, 22, 23, 24, 25, 55, 57, and 58 of Subdivision Number 8, Brazos Coast Investment Company Subdivision.
34. Respondent Sequa Corporation is a corporation incorporated in the state of Delaware. Sequa Corporation is the parent company to Chromalloy American Corporation, who is a past owner of the Site.
35. Respondent The Dow Chemical Company is a corporation incorporated in the state of Delaware. Dow Chemical Company arranged for disposal or treatment of hazardous substances, which were owned or possessed by said company, at the Site.

## **VI. CONCLUSIONS OF LAW AND DETERMINATIONS**



Based on the Findings of Fact set forth above, EPA has determined that:

36. The Gulfco Marine Maintenance Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
37. The contamination found at the Site, as identified in the Findings of Fact above, includes [a] "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), or constitutes "any pollutant or contaminant" that may present an imminent and substantial danger to public health or welfare under Section 104(a)(1) of CERCLA.
38. The conditions described in the Findings of Fact above constitute an actual and/or threatened "release" of a hazardous substance from the facility as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).
39. Each Respondent is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
40. Respondents are responsible parties under Sections 104, 107 and 122 of CERCLA, 42 U.S.C. §§ 9604, 9607 and 9622.
41. The actions required by this Order are necessary to protect the public health, welfare or the environment, are in the public interest, 42 U.S.C. § 9622(a), are consistent with CERCLA and the NCP, 42 U.S.C. §§ 9604(a)(1), 9622(a), and will expedite effective remedial action and minimize litigation, 42 U.S.C. § 9622(a).
42. EPA has determined that Respondents are qualified to conduct the RI/FS within the meaning of Section 104(a) of CERCLA, 42 U.S.C. § 9604(a), and will carry out the Work properly and promptly, in accordance with Sections 104(a) and 122(a) of CERCLA, 42 U.S.C. §§ 9604(a) and 9622(a), if Respondents comply with the terms of this Order.

## **VII. ORDER**

43. Based upon the foregoing Findings of Fact and Conclusions of Law and Determinations, it is hereby Ordered and Agreed that Respondents shall comply with all provisions of this Order, including, but not limited to, all appendices to this Order and all documents incorporated by reference into this Order.

## **VIII. DESIGNATION OF CONTRACTORS AND PROJECT COORDINATORS**

44. Selection of Contractors, Personnel

All Work performed under this Order shall be under the direction and supervision of qualified personnel. Within thirty (30) calendar days of the Effective Date of this Order,

and before the Work outlined below begins, Respondents shall notify EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants and laboratories to be used in carrying out such Work. Respondents shall notify EPA in writing of, and provide qualifications for, any additional contractors or other personnel that are subsequently proposed by Respondents to carry out the Work within fifteen (15) days after being proposed by Respondents. With respect to any proposed contractor, Respondents shall demonstrate that the proposed contractor has a quality system which complies with ANSI/ASQC E4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (American National Standard, January 5, 1995, or most recent version), by submitting a copy of the proposed contractor's Quality Management Plan ("QMP"). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)," (EPA/240/B-01/002, March 2001 or subsequently issued guidance) or equivalent documentation as determined by EPA. The qualifications of the persons undertaking the Work for Respondents shall be subject to EPA's review, for verification that such persons meet minimum technical background and experience requirements. This Order is contingent on Respondents' demonstration to EPA's satisfaction that Respondents are qualified to perform properly and promptly the actions set forth in this Order. If EPA disapproves in writing of any person's technical qualifications, Respondents shall notify EPA of the identity and qualifications of the replacements within thirty (30) calendar days of the written notice. If EPA subsequently disapproves of the replacement, EPA reserves the right to terminate this Order and to conduct a complete RI/FS, and to seek reimbursement for costs and penalties from Respondents. During the course of the RI/FS, Respondents shall notify EPA in writing of any changes or additions in the personnel used to carry out such Work, providing their names, titles, and qualifications. EPA shall have the same right to disapprove changes and additions to personnel as it has hereunder regarding the initial notification.

45. Within ten (10) calendar days after the Effective Date, Respondents shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondents required by this Order and shall submit to EPA the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site Work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondents shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number and qualifications within ten (10) calendar days following EPA's disapproval. Respondents shall have the right to change their Project Coordinator, subject to EPA's right to disapprove. Respondents shall notify EPA five (5) calendar days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notification. Receipt by Respondents' Project Coordinator of any notice or communication from EPA relating to this Order shall constitute receipt by Respondents.

46. EPA has designated M. Gary Miller of the Superfund Division, EPA Region 6 as its Remedial Project Manager ("RPM"). EPA will notify Respondents of a change of its designated RPM. Except as otherwise provided in this Order, Respondents shall direct all submissions required by this Order to the RPM.

- a. Documents to be submitted to EPA should be sent to:

M. Gary Miller  
Superfund Division (6SF-AP)  
U.S. EPA Region 6  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733

- b. Documents to be submitted to Respondents should be sent to:

47. EPA's RPM shall have the authority lawfully vested in a RPM and On-Scene Coordinator ("OSC") by the NCP. In addition, EPA's RPM shall have the authority consistent with the NCP, to halt any Work required by this Order, and to take any necessary response action when s/he determines that conditions at the Site may present an immediate endangerment to public health or welfare or the environment. The absence of the EPA Project Coordinator from the area under study pursuant to this Order shall not be cause for the stoppage or delay of Work.
48. EPA shall arrange for a qualified person to assist in its oversight and review of the conduct of the RI/FS, as required by Section 104(a) of CERCLA, 42 U.S.C. Section 9604(a). Such person shall have the authority to observe Work and make inquiries in the absence of EPA, but not to modify the RI/FS Work Plan.

#### **IX. WORK TO BE PERFORMED**

49. Respondents shall conduct the RI/FS in accordance with the provisions of this Order, the attached SOW, CERCLA, the NCP and applicable EPA guidance, including, but not limited to the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (OSWER Directive # 9355.3-01, October 1988 or subsequently issued guidance), "Guidance for Data Useability in Risk Assessment" (OSWER Directive #9285.7-05, October 1990 or subsequently issued guidance), and guidance referenced therein, and guidances referenced in the SOW, as may be amended or modified by EPA. The Remedial Investigation ("RI") shall consist of collecting data

to characterize site conditions, determining the nature and extent of the contamination at or from the Site, assessing risk to human health and the environment and conducting treatability testing as necessary to evaluate the potential performance and cost of the treatment technologies that are being considered. The Feasibility Study ("FS") shall determine and evaluate (based on treatability testing, where appropriate) alternatives for remedial action to prevent, mitigate or otherwise respond to or remedy the release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site. The alternatives evaluated must include, but shall not be limited to, the range of alternatives described in the NCP, and shall include remedial actions that utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In evaluating the alternatives, Respondents shall address the factors required to be taken into account by Section 121 of CERCLA, 42 U.S.C. § 9621, and Section 300.430(e) of the NCP, 40 C.F.R. § 300.430(e). Upon request by EPA, Respondents shall submit in electronic form all portions of any plan, report or other deliverable Respondents are required to submit pursuant to provisions of this Order.

50. Upon receipt of the draft FS report, EPA will evaluate, as necessary, the estimates of the risk to the public and environment that are expected to remain after a particular remedial alternative has been completed and will evaluate the durability, reliability and effectiveness of any proposed Institutional Controls.

51. Amendment of the RI/FS Work Plan

- a. If at any time during the RI/FS process, Respondents identify a need for additional data, Respondents shall submit a memorandum documenting the need for additional data to the EPA RPM within twenty (20) calendar days of identification. EPA in its discretion will determine whether the additional data will be collected by Respondents and whether it will be incorporated into plans, reports and other deliverables.
- b. In the event of unanticipated or changed circumstances at the Site, Respondents shall notify the EPA RPM by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In the event that EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the RI/FS Work Plan, EPA shall amend the RI/FS Work Plan in writing accordingly. Respondents shall perform the RI/FS Work Plan as amended.
- c. EPA may determine that in addition to tasks defined in the initially approved RI/FS Work Plan, other additional Work may be necessary to accomplish the objectives of the RI/FS. Respondents agree to perform these response actions in addition to those required by the initially approved RI/FS Work Plan, including

any approved amendments, if EPA determines that such actions are necessary for a complete RI/FS.

- d. Respondents shall confirm or deny their willingness to perform the additional Work, Respondents needs to submit their confirmation or objection in writing to EPA within fourteen (14) calendar days of receipt of the EPA request. If Respondents object to any amendment determined by EPA to be necessary pursuant to this Paragraph, Respondents may seek dispute resolution pursuant to Section XV (Dispute Resolution). The SOW and/or RI/FS Work Plan shall be modified in accordance with the final resolution of the dispute.
- e. Respondents shall complete the additional Work according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the RI/FS Work Plan or written RI/FS Work Plan supplement. EPA reserves the right to conduct the Work itself at any point, to seek reimbursement from Respondents, and/or to seek any other appropriate relief.
- f. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions at the Site.

52. Off-Site Shipment of Waste Material

- a. Respondents shall, prior to any off-site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to EPA's RPM. However, this notification requirement shall not apply to any off-site shipments when the total volume of all such shipments will not exceed 10 cubic yards.
- b. Respondents shall include in the written notification the following information: (1) the name and location of the facility to which the Waste Material is to be shipped; (2) the type and quantity of the Waste Material to be shipped; (3) the expected schedule for the shipment of the Waste Material; and (4) the method of transportation. Respondents shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.
- c. The identity of the receiving facility and state will be determined by Respondents following the award of the contract for the remedial investigation and feasibility study. Respondents shall provide the information required by Subparagraph 53(b) and 53(d) as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

- d. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-site location, Respondents shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents shall only send hazardous substances, pollutants, or contaminants from the Site to an off-site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

53. Meetings

Upon fourteen (14) calendar days prior written notice from EPA, Respondents shall make presentations at, and participate in, meetings at the request of EPA during the initiation, conduct, and completion of the RI/FS. In addition to discussion of the technical aspects of the RI/FS, topics will include anticipated problems or new issues. Meetings will be scheduled at EPA's discretion.

54. Progress Reports

In addition to the plans, reports and other deliverables set forth in this Order, Respondents shall provide to EPA monthly progress reports by the tenth (10<sup>th</sup>) day of the month. These progress reports can be submitted electronically. At a minimum, with respect to the preceding reports, these progress reports shall (1) describe the actions which have been taken to comply with this Order during that month, (2) include all results of sampling and tests and all other data received by Respondents, (3) describe Work planned for the next two months with schedules relating such Work to the overall project schedule for RI/FS completion, and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

55. Emergency Response and Notification of Releases

- a. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondents shall immediately take all appropriate action. Respondents shall take these actions in accordance with all applicable provisions of this Order, including, but not limited to, the Health and Safety Plan, in order to prevent, abate, or minimize such release or endangerment caused or threatened by the release. Respondents shall also immediately notify the National Response Center, 24-hour telephone number (800) 424-8802, and the EPA RPM of the incident or Site conditions. In the event that Respondents fail to take appropriate response action as required by this Paragraph, and EPA takes such



action instead, Respondents shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XVIII (Payment of Response Costs).

- b. In addition, in the event of any release of a hazardous substance from the Site, Respondents shall submit a written report to EPA within seven (7) calendar days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, et seq.

#### **X. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS**

- 56. After review of any plan, report or other item that is required to be submitted for approval pursuant to this Order, in a notice to Respondents EPA shall: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that Respondents modify the submission; or (e) any combination of the above. However, EPA shall not modify a submission without first providing Respondents at least one notice of deficiency and an opportunity to cure within thirty (30) calendar days of Respondents' receipt of said notice, or within the time specified by EPA in said notice, except where to do so would cause serious disruption to the Work or where previous submission(s) have been disapproved due to material defects.
- 57. In the event of approval, approval upon conditions, or modification by EPA, pursuant to Subparagraph 56(a), (b), (c) or (e), Respondents shall proceed to take any action required by the plan, report or other deliverable, as approved or modified by EPA subject only to their right to invoke the Dispute Resolution procedures set forth in Section XV (Dispute Resolution) with respect to the modifications or conditions made by EPA. Following EPA approval or modification of a submission or portion thereof, Respondents shall not thereafter alter or amend such submission or portion thereof unless directed by EPA. In the event that EPA modifies the submission to cure the deficiencies pursuant to Subparagraph 56(c) and the submission had a material defect, EPA retains the right to seek stipulated penalties, as provided in Section XVI (Stipulated Penalties).
- 58. Re-submission
  - a. Upon receipt of a notice of disapproval, Respondents shall, within thirty (30) calendar days of Respondents' receipt of said notice, or such longer time as specified by EPA in said notice, correct the deficiencies and resubmit the plan, report, or other deliverable for approval. Any stipulated penalties applicable to



the submission, as provided in Section XVI, shall accrue during the thirty (30) calendar day period or otherwise specified period, but shall not be payable unless the re-submission is disapproved or modified due to a material defect as provided in Paragraphs 59 and 60.

- b. Notwithstanding the receipt of a notice of disapproval, Respondents shall proceed to take any action required by any non-deficient portion of the submission, unless otherwise directed by EPA. Implementation of any non-deficient portion of a submission shall not relieve Respondents of any liability for stipulated penalties under Section XVI (Stipulated Penalties).
  - c. Respondents shall not proceed further with any subsequent activities or tasks until receiving EPA approval, approval on condition or amendment of the following deliverables: RI/FS Work Plan, Sampling and Analysis Plan, Draft Remedial Investigation Report, Treatability Testing Work Plan, Sampling and Analysis Plan, and Draft Feasibility Study Report. While awaiting EPA approval, approval on condition, or amendment of these deliverables, Respondents shall proceed with all other tasks and activities which may be conducted independently of these deliverables, in accordance with the schedule set forth under this Order.
  - d. For all remaining deliverables not listed above in subparagraph 58(c), Respondents shall proceed with all subsequent tasks, activities and deliverables without awaiting EPA approval on the submitted deliverable. EPA reserves the right to stop Respondents from proceeding further, either temporarily or permanently, on any task, activity or deliverable at any point during the RI/FS.
59. If EPA disapproves a resubmitted plan, report or other deliverable, or portion thereof, EPA may again direct Respondents to correct the deficiencies. EPA shall also retain the right to amend or develop the plan, report or other deliverable. Respondents shall implement any such plan, report, or deliverable as corrected, amended or developed by EPA, subject only to Respondents' right to invoke the procedures set forth in Section XV (Dispute Resolution).
60. If upon re-submission, a plan, report, or other deliverable is disapproved or amended by EPA due to a material defect, Respondents shall be deemed to have failed to submit such plan, report, or other deliverable timely and adequately unless Respondents invoke the dispute resolution procedures in accordance with Section XV (Dispute Resolution) and EPA's action is revoked or substantially amended pursuant to a Dispute Resolution decision issued by EPA or superceded by an agreement reached pursuant to that Section. The provisions of Section XV (Dispute Resolution) and Section XVI (Stipulated Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If EPA's disapproval or amendment is not otherwise revoked, substantially amended or superceded as a result of a decision or

agreement reached pursuant to the Dispute Resolution process set forth in Section XV, stipulated penalties shall accrue for such violation from the date on which the initial submission was originally required, as provided in Section XVI.

61. In the event that EPA takes over some of the tasks, but not the preparation of the RI Report or the FS Report, Respondents shall incorporate and integrate information supplied by EPA into the final reports.
62. All plans, reports, and other deliverables submitted to EPA under this Order shall, upon approval or amendment by EPA, be incorporated into and enforceable under this Order. In the event EPA approves or amends a portion of a plan, report, or other deliverable submitted to EPA under this Order, the approved or amended portion shall be incorporated into and enforceable under this Order.
63. Neither failure of EPA to expressly approve or disapprove of Respondents' submissions within a specified time period, nor the absence of comments, shall be construed as approval by EPA. Whether or not EPA gives express approval for Respondents' deliverables, Respondents are responsible for preparing deliverables acceptable to EPA.

## **XI. QUALITY ASSURANCE, SAMPLING, AND ACCESS TO INFORMATION**

### **64. Quality Assurance**

Respondents shall assure that Work performed, samples taken and analyses conducted conform to the requirements of the SOW, the Quality Assurance Project Plan (QAPP), and guidances identified therein. Respondents will assure that field personnel used by Respondents are properly trained in the use of field equipment and in chain of custody procedures. Respondents shall only use laboratories which have a documented quality system that complies with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, March 2001) or equivalent documentation as determined by EPA.

### **65. Sampling**

- a. All results of sampling, tests, modeling or other data (including raw data) generated by Respondents, or on Respondents' behalf, during the period that this Order is effective, shall be submitted to EPA in the next bi-monthly progress report as described in Paragraph 53 of this Order. EPA will make available to Respondents validated data generated by EPA unless it is exempt from disclosure by any federal or state law or regulation.
- b. Respondents shall verbally notify EPA and the State at least ten (10) calendar days prior to conducting significant field events as described in the SOW, RI/FS Work Plan or Sampling and Analysis Plan. At EPA's verbal or written request, or the

request of EPA's oversight assistant, Respondents shall allow split or duplicate samples to be taken by EPA (and its authorized representatives) or the State of any samples collected in implementing this Order. All split samples of Respondents shall be analyzed by the methods identified in the QAPP.

66. Access to Information

- a. Respondents shall provide to EPA and the State, upon request, copies of all documents and information within their possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Order, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondents shall also make available to EPA and the State, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.
- b. Respondents may assert business confidentiality claims covering part or all of the documents or information submitted to EPA and the State under this Order to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when it is submitted to EPA and the State, or if EPA has notified Respondents that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondents. Respondents shall segregate and clearly identify all documents or information submitted under this Order for which Respondents assert business confidentiality claims.
- c. Respondents may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Respondents assert such a privilege in lieu of providing documents, they shall provide EPA and the State with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the contents of the document, record, or information; and (6) the privilege asserted by Respondents. However, no documents, reports or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.

- d. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.
- 67. In entering into this Order, Respondents waive any objections to any data gathered, generated, or evaluated by EPA, the State, or Respondents in the performance or oversight of the Work that has been verified according to the quality assurance/quality control ("QA/QC") procedures required by the Order or any EPA-approved RI/FS Work Plans or Sampling and Analysis Plans. If Respondents object to any other data relating to the RI/FS, Respondents shall submit to EPA a report that specifically identifies and explains its objections, describes the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to EPA within fifteen (15) calendar days of the monthly progress report containing the data.

## **XII. SITE ACCESS AND INSTITUTIONAL CONTROLS**

- 68. If the Site, or any other property where access is needed to implement this Order, is owned or controlled by any of Respondents, such Respondents shall, commencing on the Effective Date, provide EPA, the State, and their representatives, including contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to this Order.
- 69. Where any action under this Order is to be performed in areas owned by or in possession of someone other than Respondents, Respondents shall use their best efforts to obtain all necessary access agreements within thirty (30) calendar days after the Effective Date, or as otherwise specified in writing by the EPA RPM. Respondents shall immediately notify EPA if after using their best efforts they are unable to obtain such agreements. For purposes of this Paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access to persons other than those identified by EPA or Respondents as potentially responsible parties. Respondents shall describe in writing their efforts to obtain access. If Respondents cannot obtain access agreements, EPA may either (i) obtain access for Respondents or assist Respondents in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as EPA deems appropriate; (ii) perform those tasks or activities with EPA contractors; or (iii) terminate the Order. Respondents shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XVIII (Special Account for Future Response Costs). If EPA performs those tasks or activities with EPA contractors and does not terminate the Order, Respondents shall perform all other tasks or activities not requiring access to that property, and shall reimburse EPA for all costs incurred in performing such tasks or

activities. Respondents shall integrate the results of any such tasks or activities undertaken by EPA into its plans, reports and other deliverables.

70. Notwithstanding any provision of this Order, EPA and the State retain all of their access authorities and rights as well as all of their rights to require land/water use restrictions, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

### **XIII. COMPLIANCE WITH OTHER LAWS**

71. Respondents shall comply with all applicable local, state, and federal laws and regulations when performing the RI/FS. No local, state, or federal permit shall be required for any portion of any action conducted entirely on-site, including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Where any portion of the Work is to be conducted off-site and requires a federal or state permit or approval, Respondents shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals. This Order is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

### **XIV. RETENTION OF RECORDS**

72. During the pendency of this Order and for a minimum of 10 years after commencement of construction of any remedial action, each Respondent shall preserve and retain all non-identical copies of documents, records, and other information (including documents, records, or other information in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary. Until 10 years after commencement of construction of any remedial action, Respondents shall also instruct their contractors and agents to preserve all documents, records, and other information of whatever kind, nature or description relating to performance of the Work.
73. At the conclusion of this document retention period, Respondents shall notify EPA at least ninety (90) calendar days prior to the destruction of any such documents, records or other information, and, upon request by EPA, Respondents shall deliver any such documents, records, or other information to EPA. Respondents may assert that certain documents, records, and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondents assert such a privilege, they shall provide EPA with the following: 1) the title of the document, record, or other information; 2) the date of the document, record, or other information; 3) the name and title of the author of the document, record, or other information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document,



record, or other information; and 6) the privilege asserted by Respondents. However, no documents, records or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.

74. Each Respondent hereby certifies individually that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding the Site since the Effective Date of this Order and that it has fully complied with any and all EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

## **XV. DISPUTE RESOLUTION**

75. Unless otherwise expressly provided for in this Order, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Order. The Parties shall attempt to resolve any disagreements concerning this Order expeditiously and informally.
76. If Respondents object to any EPA action taken pursuant to this Order, including billings for Future Response Costs, they shall notify EPA in writing of their objection(s) within fourteen (14) calendar days of such action, unless the objection(s) has/have been resolved informally. EPA and Respondents shall have fourteen (14) calendar days from EPA's receipt of Respondents' written objection(s) to resolve the dispute (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA. Such extension may be granted verbally but must be confirmed in writing.
77. Any agreement reached by the Parties pursuant to this Section shall be in writing and shall, upon signature by the Parties, be incorporated into and become an enforceable part of this Order. If the Parties are unable to reach an agreement within the Negotiation Period, Respondents may present their written position in person to the EPA's Branch Chief, Arkansas/Texas Branch. After review of the oral presentation and written materials detailing the dispute, the EPA Branch Chief, Arkansas/Texas Branch will issue a written decision. EPA's decision shall be incorporated into and become an enforceable part of this Order. Respondents' obligations under this Order shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondents shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs, and regardless of whether Respondents agree with the decision.

## **XVI. STIPULATED PENALTIES**

78. Respondents shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 79 and 80 for failure to comply with any of the requirements of this Order specified below unless excused under Section XVII (Force Majeure). "Compliance" by Respondents shall include completion of the Work under this Order or any activities contemplated under any RI/FS Work Plan or other plan approved under this Order identified below, in accordance with all applicable requirements of law, this Order, the SOW, and any plans or other documents approved by EPA pursuant to this Order and within the specified time schedules established by and approved under this Order.

79. Stipulated Penalty Amounts - Work

- a. The following stipulated penalties shall accrue per day for any noncompliance identified in Subparagraph 79(b):

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
(i) \$ 500	1st through 14th day
(ii) \$ 2,000	15th through 30th day
(iii) \$ 5,000	31st day and beyond

- b. Compliance Milestones:

- (i) An original and any revised work plan;
- (ii) An original and any revised sampling and analysis plan;
- (iii) An original and any revised Remedial Investigation Report;
- (iv) An original and any revised Baseline Human Health Risk Assessment Report;
- (v) An original and any revised Ecological Risk Screening Report;
- (vi) An original and any revised Baseline Ecological Risk assessment Report (if required);
- (vii) An original and any revised Treatability Testing work plan;
- (viii) An original and any revised Treatability Study Sampling and Analysis Plan; and
- (ix) An original and any revised Feasibility Study report.

- c. For all other deliverables, the following stipulated penalties shall accrue per day for any noncompliance:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
(i) \$ 250	1st through 14th day
(ii) \$ 1,000	15th through 30th day



(iii) \$ 2,000

31st day and beyond

80. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 102 of Section XX (Reservation of Rights by EPA), Respondents shall be liable for a stipulated penalty in the amount of \$10,000.
81. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (1) with respect to a deficient submission under Section X (EPA Approval of Plans and Other Submissions), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Respondents of any deficiency; and (2) with respect to a decision by the EPA Management Official designated in Paragraph 77 of Section XV (Dispute Resolution), during the period, if any, beginning on the 21st day after the Negotiation Period begins until the date that the EPA Management Official issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Order.
82. Following EPA's determination that Respondents have failed to comply with a requirement of this Order, EPA will give Respondents written notification of the same and describe the noncompliance. EPA may send Respondents a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondents of a violation.
83. All penalties accruing under this Section shall be due and payable to EPA within thirty (30) calendar days of Respondents' receipt from EPA of a demand for payment of the penalties, unless Respondents invoke the dispute resolution procedures in accordance with Section XV (Dispute Resolution). All payments to EPA under this Section shall be paid by Electronics Funds Transfer ("EFT") in accordance with current EFT procedures to be provided to Respondents by EPA Region 6, or by submitting a certified check. Certified checks should be made payable to the EPA Hazardous Substances Superfund. Checks should be forwarded to:

EPA Superfund - Gulfco Marine Maintenance Site (ID 06JZ)  
CERCLIS TXD055144539  
Superfund Accounting  
P.O. Box 360582M  
Pittsburgh, Pennsylvania 15251  
ATTN: COLLECTION OFFICER FOR SUPERFUND

Respondents shall indicate that the payment is for stipulated penalties, and shall reference "EPA Region 6", "Gulfco Marine Maintenance Superfund Site (ID 06JZ)", "CERCLIS #

TXD055144539", "EPA Docket Number **CERCLA 06- \_\_ -04**", and the name and address of the party(ies) making payment on each check. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s) shall be sent to EPA as provided in Paragraph 45, and to

Chief, Superfund Cost Recovery Section (6SF-AC)  
U.S. Environmental Protection Agency, Region 6  
1445 Ross Avenue  
Dallas, TX 75202-2733

The total amount to be paid by Respondents for stipulated penalties shall be deposited in the Gulfco Marine Maintenance Special Account within the EPA Hazardous Substance Superfund. This account is described in Section XVIII (Special Account for Future Response Costs). These amounts deposited in the Gulfco Marine Maintenance Special Account may be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

84. The payment of penalties shall not alter in any way Respondents' obligation to complete performance of the Work required under this Order.
85. Penalties shall continue to accrue as provided in Paragraph 81 during any dispute resolution period, but need not be paid until fifteen (15) calendar days after the dispute is resolved by agreement or by receipt of EPA's decision.
86. If Respondents fail to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. Respondents shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 84.
87. Nothing in this Order shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondents' violation of this Order or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(l) of CERCLA, 42 U.S.C. § 9622(l), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to Section 122(l) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of willful violation of this Order or in the event that EPA assumes performance of a portion or all of the Work pursuant to Section XX (Reservation of Rights by EPA), Paragraph 102. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Order.

## **XVII. FORCE MAJEURE**

88. Respondents agree to perform all requirements of this Order within the time limits established under this Order, unless the performance is delayed by a force majeure. For purposes of this Order, force majeure is defined as any event arising from causes beyond the control of Respondents or of any entity controlled by Respondents, including but not limited to their contractors and subcontractors, which delays or prevents performance of any obligation under this Order despite Respondents' best efforts to fulfill the obligation. Force majeure does not include financial inability to complete the Work or increased cost of performance.
89. If any event occurs or has occurred that may delay the performance of any obligation under this Order, whether or not caused by a force majeure event, Respondents shall notify EPA orally within three (3) calendar days of when Respondents first knew that the event might cause a delay. Within seven (7) calendar days thereafter, Respondents shall provide to EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondents' rationale for attributing such delay to a force majeure event if they intend to assert such a claim; and a statement as to whether, in the opinion of Respondents, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude Respondents from asserting any claim of force majeure for that event for the period of time of such failure to comply and for any additional delay caused by such failure.
90. If EPA agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Order that are affected by the force majeure event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify Respondents in writing of its decision. If EPA agrees that the delay is attributable to a force majeure event, EPA will notify Respondents in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

## **XVIII. SPECIAL ACCOUNT FOR FUTURE RESPONSE COSTS**

91. Pursuant to the authority in Section 122(b)(3) of CERCLA, 42 U.S.C. Section 9622(b)(3), Respondents agree to pay to EPA all Future Response Costs not inconsistent with the National Contingency Plan in accordance with the procedures and time frames described

in this Section. EPA shall establish a special account, the Gulfco Marine Maintenance Site Special Account ("Special Account", or "SA"), to retain funds provided by Respondents that the EPA shall use in connection with the performance of this Order. EPA shall use such funds for the payment of future response costs and oversight costs in connection with the performance of this Order. The total amount to be paid by Respondents shall be deposited in this Special Account. EPA has estimated that the amount of Response Costs that will be expended at this Site on an annual basis will be \$100,000 (hereinafter referred to as the "SA Startup").

92. Response costs include all future response costs as well as costs incurred by the United States in overseeing Respondents' implementation of the requirements of this Order and activities performed by the government as part of the RI/FS and community relations, including: time and travel costs of EPA and associated indirect costs, contractor costs, attorney costs, cooperative agreement costs, technical assistance grant costs, compliance monitoring, collection and analysis of split samples, inspection of RI/FS activities, Site visits, discussions regarding disputes that arise under this Order, review and approval or disapproval of reports, costs of obtaining access to property as may be necessary to carry out activities required under this Order, costs of performing risk assessment, costs of redoing any of Respondents' tasks, and all other direct and indirect costs, and interest.
93. Within thirty (30) calendar days of the Effective Date of this Order, Respondents shall pay the EPA \$100,000 to be deposited in the Gulfco Marine Maintenance Site Special Account by EFT, in accordance with EFT instructions provided by EPA, or by submitting a certified check. Certified checks should be made payable to the Hazardous Substances Superfund. Checks should be forwarded to:

EPA Superfund - Gulfco Marine Maintenance Site (06JZ)  
CERCLIS TXD055144539  
Superfund Accounting  
P.O. Box 360582M  
Pittsburgh, Pennsylvania 15251  
ATTN: COLLECTION OFFICER FOR SUPERFUND

Respondents shall indicate that the payment is for future response costs, and shall reference "EPA Region 6", "Gulfco Marine Maintenance Superfund Site (ID 06JZ)", "CERCLIS # TXD055144539", "EPA Docket Number **CERCLA 06- \_\_ -04**", and the name and address of the party(ies) making payment on each check. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s) shall be sent to EPA as provided in Paragraph 45, and to

Chief, Superfund Cost Recovery Section (6SF-AC)  
U.S. Environmental Protection Agency, Region 6  
1445 Ross Avenue

94. If Respondents do not pay Future Response Costs within thirty (30) calendar days of Respondents' receipt of a bill, Respondents shall pay Interest on the unpaid balance of Future Response Costs. The Interest on unpaid Future Response Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. If EPA receives a partial payment, Interest shall accrue on any unpaid balance. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondents' failure to make timely payments under this Section, including but not limited to, payments of stipulated penalties pursuant to Section XVI. Respondents shall make all payments required by this Paragraph in the manner described in Paragraph 93.
95. In addition, EPA will submit to Respondents an accounting summary of Response Costs paid (debited) from the Special Account since the Effective Date of this Order. The Future Response Costs accounting summary shall be in the form of an unreconciled SCORPIOS cost summary report or some equivalent unreconciled EPA accounting summary. If Respondents need more detailed information about a specific cost summarized on the SCORPIOS Report, Respondents may contact in writing the RPM to inquire about the specific details. The RPM will, within fourteen (14) calendar days of such contact, attempt to provide the requested information. After the expiration of this 14-day period, Respondents may request that EPA prepare and certify a Response Cost accounting of some or all Response Costs paid since the effective date of this Order. The EPA's cost of preparing the certified Response Cost accounting is a Response Cost payable from the Special Account.
96. Whenever the Special Account is drawn down to a balance of approximately \$20,000, EPA will send a notice to Respondents and will provide an adjusted estimate of Future Response Costs to be expended annually. Respondents shall, within twenty (20) calendar days of receipt of a notice and Response Cost accounting summary (i.e., the SCORPIOS report or its equivalent), remit to the Special Account (by EFT, certified check, or cashier's check) the amount EPA identifies as necessary to replenish the Special Account to a balance of \$100,000 or to replenish the account to a balance of EPA's adjusted estimate of Response Costs to be expended annually (whichever amount is greater). If the Special Account is depleted to an amount of \$10,000 or less at the time EPA submits a notification and cost accounting summary to Respondents, Respondents shall pay, within ten (10) calendar days of EPA's notice, \$30,000 to the Special Account. Respondents shall remit the remaining amount to replenish the Special Account to \$100,000 or to the amount of EPA's adjusted estimate of annual Response Costs (whichever amount is greater). Respondents shall make such payments according to the procedures described in Paragraph 93. Neither dispute resolution nor a request to the RPM for more detailed information nor a request for a certified cost accounting shall delay the date that Respondents' payments are due under this paragraph.



97. EPA will remit and return to Respondents the difference between any balance in the Special Account and the annual Response Costs estimated in Paragraph 91 that remains on the date of termination of this Order, or “rollover” the balance to another oversight account for the benefit of the Respondents in any subsequent action on this Site, for which the Respondents assume the lead. Termination and satisfaction of the terms of this Order will be in accordance with Section XXX (Notice of Completion of Work). EPA’s obligation to return funds to Respondents from the Special Account shall terminate upon EPA’s assumption of performance of any portion of the work pursuant to this Order.
98. Respondents may contest payment of any Future Response Costs if they determine that EPA has made an accounting error or if they believe EPA incurred excess costs as a direct result of an EPA action that was inconsistent with the NCP. Such objection shall be made in writing within thirty (30) calendar days of receipt of the bill and must be sent to the RPM. Any such objection shall specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection, Respondents shall within the thirty (30) calendar day period pay all uncontested Future Response Costs to EPA in the manner described in this Section. Simultaneously, Respondents shall establish an interest-bearing escrow account in a federally-insured bank duly chartered in the State of Texas and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. Respondents shall send to the RPM a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, Respondents shall initiate the Dispute Resolution procedures in Section XV (Dispute Resolution). If EPA prevails in the dispute, within five (5) calendar days of the resolution of the dispute, Respondents shall pay the sums due (with accrued interest) to EPA in the manner described in this Section. If Respondents prevail concerning any aspect of the contested costs, Respondents shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to EPA in the manner described in this Section. Respondents shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XV (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding Respondents’ obligation to reimburse EPA for its Future Response Costs.

#### **XIX. COVENANT NOT TO SUE BY EPA**

99. In consideration of the actions that will be performed and the payments that will be made by Respondents under the terms of this Order, and except as otherwise specifically provided in this Order, EPA covenants not to sue or to take administrative action against

Respondents pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work performed under this Order and for recovery of Future Response Costs. This covenant not to sue shall take effect upon receipt of money in the Special Account for Future Response Costs. This covenant not to sue is conditioned upon the complete and satisfactory performance by Respondents of their obligations under this Order, including, but not limited to, payment of Future Response Costs pursuant to Section XVIII. This covenant not to sue extends only to Respondents and does not extend to any other person.

## **XX. RESERVATIONS OF RIGHTS BY EPA**

100. Except as specifically provided in this Order, nothing herein shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law.
101. The covenant not to sue set forth in Section XIX above does not pertain to any matters other than those expressly identified therein. EPA reserves, and this Order is without prejudice to, all rights against Respondents with respect to all other matters, including, but not limited to:
  - a. Claims based on a failure by Respondents to meet a requirement of this Order;
  - b. Liability for costs not included within the definition of Future Response Costs;
  - c. Liability for performance of response action other than the Work;
  - d. Criminal liability;
  - e. Liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
  - f. Liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and



- g. Liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site.

102. Work Takeover

In the event EPA determines that Respondents have ceased implementation of any portion of the Work, are seriously or repeatedly deficient or late in their performance of the Work, or are implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portion of the Work as EPA determines necessary. Respondents may invoke the procedures set forth in Section XV (Dispute Resolution) to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by EPA in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Respondents shall pay pursuant to Section XVIII (Special Account for Future Response Costs). Notwithstanding any other provision of this Order, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

**XXI. COVENANT NOT TO SUE BY RESPONDENTS**

- 103. Respondents covenant not to sue and agree not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Future Response Costs, or this Order, including, but not limited to:
  - a. Any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;
  - b. Any claim arising out of the Work or arising out of the response actions for which the Future Response Costs have or will be incurred, including any claim under the United States Constitution, the State Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or
  - c. Any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Work or payment of Future Response Costs.

104. These covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to the reservations set forth in Paragraphs 101 (b), (c), and (e) - (g), but only to the extent that Respondents' claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.
105. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

## **XXII. OTHER CLAIMS**

106. By issuance of this Order, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents.
107. Except as expressly provided in Section XIX (Covenant Not to Sue by EPA), nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.
108. No action or decision by EPA pursuant to this Order shall give rise to any right to judicial review except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

## **XXIII. CONTRIBUTION PROTECTION**

109. The Parties agree that Respondents are entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for "matters addressed" in this Order. The "matters addressed" in this Order are the Work and Future Response Costs. Except as provided in Section XXI (Covenant Not to Sue by Respondents), nothing in this Order precludes the United States or Respondents from asserting any claims, causes of action, or demands against any person not parties to this Order.

## **XXIV. INDEMNIFICATION**

110. Respondents shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all

claims or causes of action arising from, or on account of negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Order. In addition, Respondents agree to pay the United States all costs incurred by the United States, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, subcontractors and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Order. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondents in carrying out activities pursuant to this Order. Neither Respondents nor any such contractor shall be considered an agent of the United States.

## **XXV. INSURANCE**

111. At least twenty (20) calendar days prior to commencing any On-Site Work under this Order, Respondents shall secure, and shall maintain for the duration of this Order, comprehensive general liability (“CGL”) insurance and automobile insurance with limits of \$5,000,000 combined single limit, naming the EPA as an additional insured. The CGL insurance must include Contractual Liability Insurance in the amount of \$1,000,000 per occurrence, and Umbrella Liability Insurance in the amount of \$2,000,000 per occurrence. Within the same period, Respondents shall provide EPA with certificates of such insurance and a copy of each insurance policy. Respondents shall submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Order, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker’s compensation insurance for all persons performing the Work on behalf of Respondents in furtherance of this Order. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondents need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.
112. The United States shall give Respondents notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondents prior to settling such claim.

113. Respondents waive all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site. In addition, Respondents shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site.

#### **XXVI. FINANCIAL ASSURANCE**

114. Within thirty (30) calendar days of the Effective Date, Respondents shall establish and maintain financial security for the benefit of EPA in the amount of \$750,000 in one or more of the following forms, in order to secure the full and final completion of Work by Respondents:
- a. A surety bond unconditionally guaranteeing payment and/or performance of the Work;
  - b. One or more irrevocable letters of credit, payable to or at the direction of EPA, issued by financial institution(s) acceptable in all respects to EPA equaling the total estimated cost of the Work;
  - c. A trust fund administered by a trustee acceptable in all respects to EPA;
  - d. A policy of insurance issued by an insurance carrier acceptable in all respects to EPA, which ensures the payment and/or performance of the Work;
  - e. An escrow account administered by a trustee acceptable in all respects to EPA, which ensures the payment and/or performance of the Work;
  - f. A corporate guarantee to perform the Work provided by one or more parent corporations or subsidiaries of Respondents, or by one or more unrelated corporations that have a substantial business relationship with at least one of Respondents; including a demonstration that any such company satisfies the financial test requirements of 40 C.F.R. Part 264.143(f); and/or

- g. A corporate guarantee to perform the Work by one or more of Respondents, including a demonstration that any such Respondent satisfies the requirements of 40 C.F.R. Part 264.143(f).
115. Any and all financial assurance instruments provided pursuant to this Section shall be in form and substance satisfactory to EPA, determined in EPA's sole discretion. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section (including, without limitation, the instrument(s) evidencing such assurances) are inadequate, Respondents shall, within thirty (30) calendar days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 114 above. In addition, if at any time EPA notifies Respondents that the anticipated cost of completing the Work has increased, then, within thirty (30) calendar days of such notification, Respondents shall obtain and present to EPA for approval a revised form of financial assurance (otherwise acceptable under this Section) that reflects such cost increase. Respondents' inability to demonstrate financial ability to complete the Work shall in no way excuse performance of any activities required under this Order.
116. If Respondents seek to ensure completion of the Work through a guarantee pursuant to Subparagraph 114(f) or 117(g) of this Order, Respondents shall (i) demonstrate to EPA's satisfaction that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f); and (ii) resubmit sworn statements conveying the information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the Effective Date, to EPA. For the purposes of this Order, wherever 40 C.F.R. Part 264.143(g) references "sum of current closure and post-closure costs estimates and the current plugging and abandonment costs estimates," the current cost estimate of \$750,000 for the Work at the Site shall be used in relevant financial test calculations.
117. If, after the Effective Date, Respondents can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 114 of this Section, Respondents may, on any anniversary date of the Effective Date, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining Work to be performed. Respondents shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security after receiving written approval from EPA. In the event of a dispute, Respondents may seek dispute resolution pursuant to Section XV (Dispute Resolution). Respondents may reduce the amount of security in accordance with EPA's written decision resolving the dispute. The obligation

to maintain financial assurance shall terminate upon the full and final completion of Work by Respondents.

118. Respondents may change the form of financial assurance provided under this Section at any time, upon notice to and prior written approval by EPA, provided that EPA determines that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondents may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

#### **XXVII. INTEGRATION/APPENDICES**

119. This Order and its appendices and any deliverables, technical memoranda, specifications, schedules, documents, plans, reports (other than progress reports), etc. that will be developed pursuant to this Order and become incorporated into and enforceable under this Order constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Order. The parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Order. The following appendices are attached to and incorporated into this Order:

- a. "Appendix A" is a list of the Respondents.
- b. "Appendix B" is the SOW.
- c. "Appendix C" is the map of the Site.

#### **XXVIII. ADMINISTRATIVE RECORD**

120. EPA will determine the contents of the administrative record file for selection of the remedial action. Respondents shall submit to EPA documents developed during the course of the RI/FS upon which selection of the response action may be based. Upon request of EPA, Respondents shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports and other reports. Upon request of EPA, Respondents shall additionally submit any previous studies conducted under state, local or other federal authorities relating to selection of the response action, and all communications between Respondents and state, local or other federal authorities concerning selection of the response action.

At EPA's discretion, Respondents shall establish a community information repository at or near the Site, to house one copy of the administrative record.

**XXIX. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION**

121. The Effective Date of this Order will be the date its is signed by EPA.
122. This Order may be amended by mutual agreement of EPA and Respondents. Amendments shall be in writing and shall be effective when signed by EPA. The EPA RPM does not have the authority to sign amendments to the Order.
123. No informal advice, guidance, suggestion, or comment by the EPA RPM or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondents shall relieve Respondents of their obligation to obtain any formal approval required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

**XXX. NOTICE OF COMPLETION OF WORK**

124. When EPA determines that all Work has been fully performed in accordance with this Order, with the exception of any continuing obligations required by this Order, including but not limited to payment of Future Response Costs or record retention, EPA will provide written notice to Respondents. If EPA determines that any such Work has not been completed in accordance with this Order, EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents amend the RI/FS Work Plan if appropriate in order to correct such deficiencies, in accordance with Paragraph 50 (Amendment of the Work Plan). Failure by Respondents to implement the approved modified RI/FS Work Plan shall be a violation of this Order.

IT IS SO AGREED AND ORDERED

U.S. Environmental Protection Agency



BY: \_\_\_\_\_ DATE: \_\_\_\_\_

Sam Coleman, P.E.  
Director  
Superfund Division, Region 6

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## APPENDIX A

### LIST OF POTENTIALLY RESPONSIBLE PARTIES GULFCO MARINE MAINTENANCE SUPERFUND SITE

1. **Dow Chemical Company**

CT Corporation System  
Registered Agent for  
Dow Chemical Company  
350 N. St. Paul St., Suite 2400  
Dallas, TX 75201

Dow Chemical Company  
3020 Dow Center  
Midland, MI 48674

2. **LDL Coastal Limited L.P.**

LDL Coastal Limited L.P.  
906 Marlin Dr., CR 756  
Freeport, TX 77541

LDL Management, LLC  
906 Marlin Dr., CR 756  
Freeport, TX 77541

3. **Sequa Corporation**

Chromalloy American Corporation  
c/o Sequa Corporation  
111 Eighth Avenue  
New York, NY 10019

CT Corp. System, Registered Agent  
for Sequa Corporation  
350 No. St. Paul St.  
Dallas, TX 75201

**APPENDIX B**  
**STATEMENT OF WORK (SOW)**

**APPENDIX C**

**GULFCO MARINE MAINTENANCE SUPERFUND SITE**  
**SITE MAP**

**APPENDIX B**

**DRAFT STATEMENT OF WORK**

**REMEDIAL INVESTIGATION AND FEASIBILITY STUDY**

**GULFCO MARINE MAINTENANCE SUPERFUND SITE**

**FREEPORT, BRAZORIA COUNTY, TEXAS**

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## **APPENDIX B**

### **DRAFT STATEMENT OF WORK (SOW) REMEDIAL INVESTIGATION AND FEASIBILITY STUDY**

#### **GULFCO MARINE MAINTENANCE SUPERFUND SITE FREEPORT, BRAZORIA COUNTY, TEXAS**

### **I. INTRODUCTION**

1. This Statement of Work (SOW) provides an overview of work that will be carried out by Respondents as they implement a Remedial Investigation and Feasibility Study (RI/FS) for the Gulfco Marine Maintenance Superfund Site (Site). This RI/FS SOW is attached to the Administrative Order on Consent (AOC) for the Site and is a supporting document for the AOC. Technical work described in the SOW is intended to provide more information to Respondents for purposes of implementing the AOC and is not intended to change the meaning of any AOC language. This SOW is also consistent with both the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and the National Contingency Plan (NCP). Any discrepancies between the AOC and SOW are unintended, and whenever necessary, the AOC will control in any interpretive disputes.
2. The purpose of the RI/FS is to investigate the nature and extent of contamination for the Site, to assess the potential risk to human health and the environment, and to develop and evaluate potential remedial alternatives. The RI and FS are interactive and will be conducted concurrently, to the extent practicable, in a manner that allows information and data collected during the RI to influence the development of remedial alternatives during the FS, which in turn affect additional information and data needs and the scope of any necessary treatability studies and risk assessments.
3. Respondents will conduct the RI/FS and will produce draft RI and FS reports that are in accordance with the AOC. The RI/FS will be consistent with the Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (U.S. EPA, Office of Emergency and Remedial Response, October 1988), Guidance for the Data Quality Objectives Process (EPA QA/G-4, August 2000), Ecological Risk Assessment Guidance for Superfund: Process for Designing & Conducting Ecological Risk Assessments (U.S. EPA, OSWER Directive, No. 9285.7-25, February 1997), and other guidance that EPA uses in conducting an RI/FS (a list of the primary guidance is attached). EPA is aware that not all guidance used for the RI/FS purposes may be applicable to the Site. EPA Project Managers for sites have the authority under the NCP to determine when application of any guidance would be inappropriate. Respondents

may raise such guidance issues they consider appropriate during the implementation of the AOC. EPA's decisions regarding guidance applicability will be incorporated into document approval correspondence or in other written correspondence as appropriate.

4. The RI/FS Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA describes the report format and the required report content for the draft RI and FS reports. Respondents will furnish all necessary personnel, materials, and services needed for, or incidental to, performing the RI/FS, except as otherwise specified in the AOC.
5. At the completion of the RI/FS, EPA will be responsible for the selection of a site remedy and will document this selection in one or more Records of Decision (ROD). The remedial action alternatives selected by EPA will meet the cleanup standards specified in Section 121 of CERCLA, 42 U.S.C. § 9621; the selected remedy will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements (ARARs), will be cost-effective, will utilize permanent solutions and alternative treatment technologies or resource recovery technologies, to the maximum extent practicable, and will address the statutory preference for treatment as a principal element, as appropriate under the NCP. The final RI/FS report, as approved by EPA, will, with the administrative record, form the basis for the selection of the Site's remedy and will provide the information necessary to support development of one or more RODs.
6. As specified in Section 104(a)(1) of CERCLA, 42 U.S.C. § 9604(a)(1), EPA will provide oversight of Respondents' activities throughout implementation of the AOC. Respondents will support EPA's initiation and conduct of activities related to implementation of oversight activities.

#### **Purpose of the Statement of Work**

7. This SOW sets forth certain requirements of the AOC for implementation of the Work pertaining to a RI/FS for the Site. The Respondents shall undertake the RI/FS according to the AOC, including, but not limited to, this SOW.

#### **Objectives of the Remedial Investigation/Feasibility Study**

8. The objectives of the RI/FS are to investigate the nature and extent of contamination at the Site and to develop and evaluate potential remedial alternatives, in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, 42 U.S.C. § 9601, *et seq.*), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (National Contingency Plan ).

Specifically, these objectives are to determine the presence or absence, types, and quantities (concentrations) of contaminants; mechanism of contaminant release to pathway(s); direction of pathway(s) transport; boundaries of source(s) and pathway(s); and environmental/public health receptors.

### **Scope of the Remedial Investigation and Feasibility Study**

9. The general scope of the RI/FS shall be to address all contamination at the Site resulting from the hazardous substances present at the Site.

### **Description of the Site**

10. The Gulfco Site was a former barge cleaning, servicing, and waste disposal facility located in Freeport, Texas. It operated from 1971 through 1998. Barges brought to the facility were cleaned of waste oils, caustics, and organic chemicals, and the wash waters generated during these operations were stored in three unlined surface impoundments, or earthen pits, located on Lot 56 on the north side of Marlin Avenue. The three surface impoundments covered a total area of about 2.3 acres. These impoundments were closed by partial removal of sludges, filling with clay, and covering with shell in August 1982. Approximately 100 cubic yards of sludge was left in the surface impoundments following closure, primarily in surface impoundment No. 2. After 1981, waste wash waters were stored in a rented floating barge or aboveground storage tanks located at the Site. The dry dock area associated with Barge Slip 1 permitted a barge to be completely removed from the water for necessary repairs on its bottom or to sandblast and repaint the entire hull. The barge slips and dry dock area where barges are emptied and repaired incorporated no containment or levees to contain potential contaminant migration.
11. The Gulfco Site is located at 906 Marlin Avenue, Freeport, Brazoria County, Texas. The property consists of lots 21 through 25 and lots 55 through 58, Subdivision 8, of the Brazos Coast Investment Company. Marlin Avenue separates lots 55 through 58 on the north from lots 21 through 25 on the south. Lots 21 through 25 are approximately four acre tracts bordered on the south by the Intracoastal Waterway. Lots 55 through 58 are approximately five acre tracts. The entire property is about 40 acres in size.
12. Contaminated soil identified at the Site is associated with barge servicing and cleaning operations. Specific areas of concern include two former sandblast areas, the former drum storage area, the former wash water storage area, miscellaneous areas around the property, and adjacent to the former surface impoundments.
13. The Site is located the north bank of the Intracoastal Waterway between Oyster Creek on the east and the Old Brazos River Channel and the Dow Barge Canal on the west. The southern part of the Site, south of Marlin Avenue, drains toward the south where it enters

into the Intracoastal Waterway. Areas north of Marlin Avenue are relatively level. Drainage from these areas is to the northeast into adjacent wetlands, then to Oyster Creek. The wetlands are directly adjacent to the surface impoundments on the north, east, and west, and are classified as intertidal, emergent, estuarine, persistent, and irregularly flooded. These wetlands extend approximately 0.48 miles to Oyster Creek. The Site is located within an area of 100-year coastal flood with velocity, or wave action.

14. Sampling results documented releases of hazardous substances from the Site to the ground water. Ground water at the Site flows to the southeast. The closest water supply well (Well BH8106-303) is on the west adjacent property to the Site, and was used for a public marina until 1984. The well is 199 feet deep and is screened from a depth of 188 feet to 198 feet. The City of Freeport was previously supplied by ground water from seven wells at depths of 200 feet. These wells were used until 1989 when they were replaced by surface water reservoirs, and subsequently the wells were used as a backup system.
15. The Site was proposed for listing on the National Priorities List ("NPL") on September 5, 2002 (67 FR 56794), and was placed on the NPL effective May 30, 2003, in a final rulemaking published on April 30, 2003 (68 FR 23077).

## **II. PERFORMANCE STANDARDS**

16. The Performance Standards for this RI/FS shall include substantive requirements, criteria, or limitations which are specified in the AOC, including, but not limited to, this SOW. Submissions approved by the EPA are an enforceable part of the AOC; consequently, cleanup goals and other substantive requirements, criteria, or limitations which are specified in EPA-approved submissions are Performance Standards. The EPA will use the Performance Standards to determine if the work, including, but not limited to, the RI/FS, has been completed. The Respondents shall ensure that the RI/FS is consistent with the EPA's "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b, hereinafter "the RI/FS Guidance") and other EPA guidance cited herein. If the EPA approves a schedule for any work pursuant to the AOC, the schedule shall supersede any timing requirements established in the RI/FS guidance or other guidance. Likewise, if the EPA, pursuant to the AOC, requires the Respondents to perform certain work at a point in time which is not consistent with the RI/FS guidance or other guidance, the Respondents shall perform the work as specified by the AOC. For example, on page B-2, the RI/FS guidance says that the Field Investigation is complete when the contractors or subcontractors are demobilized from the field; however, if the EPA, pursuant to the AOC, requires the Respondents to perform additional field investigation activities once the contractors or subcontractors have demobilized, the Respondents shall remobilize the contractors or subcontractors and perform the additional work. Except where it is inconsistent with this AOC, as

determined by the EPA, the RI/FS guidance and the other EPA guidance cited herein are Performance Standards.

### **III. ROLE OF THE EPA**

17. The EPA's approval of deliverables, including, but not limited to, submissions, is administrative in nature and allows the Respondents to proceed to the next steps in implementing the work of the RI/FS. The EPA's approval does not imply any warranty of performance, that the RI/FS, when completed, will meet Performance Standards, or that the RI/FS will function properly and be ultimately accepted by the EPA. The EPA retains the right to disapprove submissions during the RI/FS. The EPA may disapprove deliverables including, but not limited to, submissions concerning such matters as the contractor selection, plans and specifications, work plans, processes, sampling, analysis and any other deliverables within the context of the AOC. If a submission is unacceptable to the EPA, the EPA may require the Respondents to make modifications in the submission, and the EPA may require the Respondents to do additional work to support those modifications. That is, if a submission reports certain work that is unacceptable to the EPA, the EPA may require the Respondents to modify the submission text and to perform the work until it is acceptable to the EPA. The Respondents shall modify the submission and perform the work as required by the EPA.

### **IV. RESPONDENTS' KEY PERSONNEL**

#### **Respondents' Project Coordinator**

18. When necessary, as determined by the EPA, the EPA will meet with the Respondents and discuss the performance and capabilities of the Respondents' Project Coordinator. When the Project Coordinator's performance is not satisfactory, as determined by the EPA, the Respondents shall take action, as requested by the EPA, to correct the deficiency. If, at any time, the EPA determines that the Project Coordinator is unacceptable for any reason, the Respondents, at the EPA's request, shall bar the Project Coordinator from any work under the AOC and give notice of the Respondents' selected new Project Coordinator to the EPA.

### **V. TASKS TO BE PERFORMED AND DELIVERABLES**

#### **Conduct of the Remedial Investigation/Feasibility Study**

19. This SOW specifies the Work to be performed and the deliverables which shall be produced by the Respondent. The Respondent shall conduct the RI/FS in accordance with this SOW, AOC, and all applicable guidance that the EPA uses in conducting RI/FS projects under CERCLA, as well as any additional requirements in the AOC. The

Respondents shall furnish all personnel, materials, and services necessary for, and incidental to, performance of the RI/FS, except as otherwise specified in the AOC or SOW.

### **Submittal of Deliverables**

20. All draft and final deliverables specified in this SOW shall be provided in hard copy, by the Respondents, to the EPA (three copies), EPA's RI/FS Oversight Contractor (one copy), Texas Commission on Environmental Quality (TCEQ, one copy), and the Natural Resource Trustees<sup>1</sup> (one copy each). Draft and Final deliverables shall be provided in electronic format (specifically, WordPerfect® Version 9.0 [or higher] for Windows™ and Adobe® PDF format [only final deliverables]) to the EPA. Final deliverables shall be provided in hard copy and electronic format (specifically, Adobe® PDF format) to the Information Repository(ies) established for the Site. Additionally, all deliverables specified in this SOW shall be submitted by the Respondent according to the requirements of this SOW and Appendix B-1 (Schedule of Deliverables/Meetings).
21. All deliverables shall be developed in accordance with the guidance documents listed in Appendix B-2<sup>2</sup> (Guidance Documents) to this SOW. If the EPA disapproves of or requires revisions to any of these deliverables, in whole or in part, the Respondents shall submit to the EPA revised plans which are responsive to such directions or comments.

### **Tasks to be Performed by the Respondents**

22. The Respondents shall perform each of the following Tasks (Tasks 1-10) as specified in this SOW. These Tasks shall be developed in accordance with the guidance documents listed in Appendix B-2 (Guidance Documents) to this SOW and any additional guidance applicable to the RI/FS process.

#### **Task 1: Project Planning**

23. The purpose of Task 1 (Project Planning) is to determine how the RI/FS will be managed and controlled. The following activities shall be performed by the Respondents as part of Task 1:

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<sup>1</sup>The Natural Resource Trustees for the Site have been preliminarily identified as the U.S. Department of the Interior, U.S. Fish and Wildlife Service, United States Geological Survey, Texas Commission on Environmental Quality, Texas Parks and Wildlife Department, and Texas General Land Office.

<sup>2</sup>Appendix B-2 of this SOW does not include all guidance documents that are applicable to the RI/FS for the Site. The Respondent should consult with EPA's Remedial Project Manager for additional guidance and to ensure that these guidance documents have not been superseded.



- a. Attend Scoping Phase Meeting - The Respondents shall contact the EPA's Remedial Project Manager after the Effective Date of the AOC to schedule a scoping phase meeting. The ***Scoping Phase Meeting*** shall occur within **fifteen (15) calendar days** after the Effective Date of the AOC. The scoping phase meeting may include, but not be limited to, a discussion of the following:
  - (i) The proposed scope of the project and the specific investigative and analytical activities that will be required;
  - (ii) Whether there is a need to conduct limited sampling to adequately scope the project and develop project plans;
  - (iii) Preliminary remedial action objectives;
  - (iv) Potential remedial technologies and the need for or usefulness of treatability studies;
  - (v) Potential ARARs associated with the location and contaminants of the Site and the potential response actions being contemplated; and
  - (vi) Whether a temporary Site office should be set up to support Site work.
- b. Evaluate Existing Information - The Respondents shall compile and review all existing Site data. The Respondents shall refer to Table 2-1 (Data Collection Information Sources) of the RI/FS Guidance for a list of data collection information sources, and the Respondents shall exhaust all of those sources in compiling the data.
  - (i) The Respondents shall compile all existing information describing hazardous substance sources, migration pathways, and potential human and environmental receptors. The Respondents shall compile all existing data relating to the varieties and quantities of hazardous substances released on and near the Site. The Respondents shall compile and review all available data relating to past disposal practices of any kind on and near the Site. The Respondents shall compile existing data concerning the physical and chemical characteristics of the hazardous substances, and their distribution among the environmental media (ground water, soil, surface water, sediments, and air) on and near the Site.
  - (ii) The Respondents shall compile existing data which resulted from any previous sampling events that may have been conducted on and near the Site. The Respondents shall gather existing data which describe previous responses that have been conducted on and near the Site by local, state, federal, or private parties.



- (iii) The Respondents shall gather existing information regarding physiography, geology, hydrogeology, hydrology, meteorology, and ecology of the Site.
- (iv) The Respondents shall gather existing data regarding background ground water, background soil, background surface water, background sediments, and background air characteristics.
- (v) The Respondents shall gather existing data regarding demographics and land use.
- (vi) The Respondents shall gather existing data which identify and locate residential, municipal, or industrial wells on and near the Site. The Respondents shall gather existing data which identify surface water uses for areas surrounding the Site including, but not limited to, downstream of the Site.
- (vii) The Respondents shall gather existing information describing the flora and fauna of the Site. The Respondents shall gather existing data regarding threatened, endangered, or rare species, sensitive environmental areas, or critical habitats on and near the Site. The Respondent shall compile existing results from any previous biological testing to document any known ecological effect such as acute or chronic toxicity or bioaccumulation in the food chain.
- (viii) The Respondents shall use data compiled and reviewed to describe additional data needed to characterize the Site, to better define potential applicable or relevant and appropriate requirements (ARARs), and to develop a range of preliminarily identified remedial alternatives.

**Task 2: Remedial Investigation and Feasibility Study Work Plan**

- 24. The Respondents shall prepare and submit a ***Draft RI/FS Work Plan*** within **sixty (60) calendar days** after the Effective Date of the AOC.
- 25. The Respondents shall prepare and submit to the EPA a ***Final RI/FS Work Plan*** within **twenty (20) calendar days** after the receipt of the EPA's comments on the Draft Work Plan that is responsive to the directions in EPA's comments.
- 26. The Respondents shall use information from appropriate EPA guidance and technical direction provided by the EPA's Remedial Project Manager as the basis for preparing the RI/FS Work Plan.

27. The Respondents shall develop the Draft RI/FS Work Plan (WP) in conjunction with the Draft RI/FS Sampling and Analysis Plan (Task 3, RI/FS Sampling and Analysis Plan) and the Draft RI/FS Site Health and Safety Plan (Task 4, RI/FS Site Health and Safety Plan), although each plan may be submitted to the EPA under separate cover. The Draft RI/FS WP shall include a comprehensive description of the Work to be performed, the methodologies to be utilized, and a corresponding schedule for completion. In addition, the Draft RI/FS WP shall include the rationale for performing the required activities.
28. Specifically, the Draft RI/FS WP shall present a statement of the problem(s) and potential problem(s) posed by the Site and the objectives of the RI/FS. Furthermore, the Draft RI/FS WP shall include a Site background summary setting forth the Site description which includes the geographic location of the Site, and to the extent possible, a description of the Site's physiography, hydrology, geology, and demographics; the Site's ecological, cultural and natural resource features; a synopsis of the Site history and a description of previous responses that have been conducted at the Site by local, state, federal, or private parties; and a summary of the existing data in terms of physical and chemical characteristics of the contaminants identified, and their distribution among the environmental media at the Site. In addition, the Draft RI/FS WP shall include a description of the site management strategy developed during scoping, and a preliminary identification of remedial alternatives and data needs for evaluation of remedial alternatives. The Draft RI/FS WP shall reflect coordination with treatability study requirements (Task 8, Treatability Studies) and will show a process for and manner of identifying Federal and State chemical, location, and action-specific ARARs.
29. The Draft RI/FS WP shall include a Preliminary Conceptual Site Model (CSM). The CSM is a representation of the site that documents current site conditions. The intent of the CSM is to provide input into the Sampling and Analysis Plans. It identifies possible source areas and affected media, characterizes the distribution of contaminant concentrations across the site, and identifies all potential exposure pathways, migration routes, and potential receptors. The CSM identifies the anticipated future land use, potential ground water use, and is initially developed from existing site data. The CSM is a key component of the RI/FS and shall be revised as new Site investigations produce updated or more accurate information. Specifically, the CSM will be used to: (1) identify data needs that will be targeted during the RI/FS; (2) identify exposure pathways or contaminants for which current data is useable in terms of quality and quantity, to quantify exposures and assess risk; and (3) develop a preliminary list of potential contaminants of concern.
30. Finally, the major part of the Draft RI/FS WP shall be a detailed description of the Tasks (Tasks 1-10) to be performed, information needed for each Task and for the Baseline Risk Assessments, information to be produced during and at the conclusion of each Task, and

a description of the Work products and deliverables that the Respondents will submit to the EPA. This includes the deliverables set forth in the remainder of this SOW; a schedule for each of the required activities which is consistent with this SOW; a project management plan, including a data management plan (e.g., requirements for project management systems and software, minimum data requirements, data format and backup data management) and monthly reports to the EPA; and meetings and presentations to the EPA at the conclusion of each major phase of the RI/FS. The Respondents shall refer to the EPA's guidance document titled "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b) which describes the RI/FS WP format and the required content.

31. The Respondents are responsible for fulfilling additional data and analysis needs identified by the EPA consistent with the general scope and objectives of this RI/FS. Because of the nature of the Site and the iterative nature of the RI/FS, additional data requirements and analyses may be identified throughout the process. If any significant additional Work is required to meet the objectives stated in the RI/FS WP, based upon new information obtained during the RI/FS, the Respondents shall submit a Draft RI/FS WP Amendment to the EPA for review and approval prior to any additional Work being conducted in accordance with the AOC and SOW. The EPA may, at its discretion, give verbal approval for Work to be conducted prior to providing written approval of the Draft RI/FS WP Amendment.

### **Task 3: RI/FS Sampling and Analysis Plan**

32. The Respondents shall prepare a ***Draft RI/FS Sampling and Analysis Plan (SAP)*** within **sixty (60) calendar days** after the Effective Date of the AOC.
33. The Respondents shall prepare and submit to the EPA a ***Final RI/FS Sampling and Analysis Plan (SAP)*** within **twenty (20) calendar days** after the receipt of the EPA's comments on the draft plan that is responsive to the directions in EPA's comments.
34. The Draft RI/FS SAP shall provide a mechanism for planning field activities and shall consist of an RI/FS Field Sampling Plan and Quality Assurance Project Plan as follows:
  - a. **RI/FS Field Sampling Plan (FSP)**- The RI/FS FSP shall define in detail the sampling and data gathering methods that will be used for the project to define the nature and extent of contamination and ecological risk assessment-related studies (Task 7, Risk Assessments). It shall include, but not be limited to, sampling objectives, sample rationale, location and frequency, sampling equipment and procedures, and sample handling and analysis. The RI/FS FSP shall contain a completed Sample Design Collection Worksheet and a Method Selection Worksheet. These worksheet templates can be found in the EPA's guidance

document titled "Guidance for Data Useability in Risk Assessment" (EPA 1992a). In addition, the FSP shall include a comprehensive description of the Site including geology, location, and physiographic, hydrological, ecological, cultural, and natural resource features of the Site, a brief synopsis of the history of the Site, summary of existing data, and information on fate and transport and effects of chemicals. As such, the Respondents shall provide a strategy that includes both biased sampling and random sampling. The human health and ecological risk assessments require that the sampling be conducted to demonstrate that the data are statistically representative of the Site. The Respondents shall also confirm that the detection limits for all laboratories are in accordance within the goals stated in the EPA's risk assessment guidance. The FSP shall consider the use of all existing data and shall justify the need for additional data whenever existing data will meet the same objective. The FSP shall be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required. The Respondents shall refer to EPA's guidance documents titled "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b) which describes the RI/FS FSP format and the required content.

- b. RI/FS Quality Assurance Project Plan (QAPP) - The RI/FS QAPP shall describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that will be used to achieve the desired Data Quality Objectives (DQOs). The DQOs shall at a minimum reflect use of analytical methods for identifying contamination and remediating contamination consistent with the levels for remedial action objectives identified in the NCP. In addition, the RI/FS QAPP shall address sampling procedures, sample custody, analytical procedures, data reduction, data validation, data reporting, and personnel qualifications. The Respondents shall refer to EPA's guidance documents titled "EPA Guidance for Quality Assurance Project Plans, EPA QA/G-5" (EPA 1998b) and "EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5" (EPA 2001), which describes the RI/FS QAPP format and the required content.
35. The Respondents shall demonstrate in advance, to the EPA's satisfaction, that each analytical laboratory it may use is qualified to conduct the proposed Work. This includes use of methods and analytical protocols for the chemicals of concern in the media of interest within detection and quantification limits consistent with both QA/QC procedures and the DQOs approved in the RI/FS QAPP for the Site by the EPA. The laboratory must have, and follow, an approved QA program. If a laboratory not in the Contract Laboratory Program (CLP) is selected, methods consistent with CLP methods shall be used where appropriate. Any methods not consistent with CLP methods shall be approved by EPA prior to their use. Furthermore, if a laboratory not in the CLP program

is selected, a laboratory QA program must be submitted to the EPA for review and approval. The EPA may require the Respondents to submit detailed information to demonstrate that the laboratory is qualified to conduct the Work, including information on personnel and qualifications, equipment, and material specifications.

**Task 4: RI/FS Site Health and Safety Plan**

36. The Respondents shall prepare and submit to the EPA an ***RI/FS Site Health and Safety Plan (HSP)*** within **twenty (20) calendar days** after the Effective Date of this AOC.
37. A HSP that is in compliance with Occupational Safety and Health Administration and EPA requirements must be in place prior to any onsite activities. The EPA will review, but not approve, the RI/FS Site HSP. In addition, EPA may require a revised RI/FS Site HSP to be submitted for review in the event that the RI/FS WP is changed or amended (e.g., such as in the performance of pilot studies which may result in the airborne emissions of hazardous substances from the Site). The Respondents shall refer to the EPA's guidance document titled "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b) which describes the RI/FS Site HSP format and the required content.

**Task 5: Community Relations Plan**

38. The development and implementation of community relations activities, including conducting community interviews and developing a community relations plan, are the responsibilities of EPA. Respondents must assist as required by EPA by providing information regarding the Site's history, preparing meeting visual aids as required, participating in public meetings, dissemination of news releases, and/or by preparing fact sheets for distribution to the general public. In addition, EPA may require that Respondents establish a community information repository at or near the Site to house one copy of the administrative record. The extent of Respondents' involvement in community relations activities is left to the discretion of EPA. Respondents' community relations responsibilities, if any, are specified in the community relations plan. All community relations activities will be subject to oversight by EPA.
39. The Respondents shall make arrangements for public meetings and workshops as directed by EPA, including, but not limited to, the selection and reservation of a meeting space, and providing the necessary audio-visual equipment including screens, overhead projectors, and computer projectors.
40. The Respondents shall reserve a court reporter for public meetings regarding the Proposed Plan. A full page original and a 3.5 inch computer disk in Word Perfect format,



or a CD, of the transcripts shall be provided to EPA (three copies), with additional copies provided to the State and the Site information repository.

#### **Task 6: Site Characterization**

41. As part of the Remedial Investigation (RI), the Respondents shall perform the activities described in this Task, including the preparation of a Preliminary Site Characterization Report and a RI Report (Task 9, Remedial Investigation Report). The overall objective of the Site's characterization will be to describe areas of the Site that may pose a threat to human health or the environment. This will be accomplished by first determining the Site's physiography, geology, and hydrology. Surface and subsurface pathways of migration shall be defined by the Respondents. The Respondents shall identify the sources of contamination and define the nature, extent, and volume of the sources of contamination, including their physical and chemical constituents. The Respondents shall also investigate the extent of migration of this contamination as well as its volume and any changes in its physical or chemical characteristics, to provide for a comprehensive understanding of the nature and extent of contamination at the Site. Using this information, Respondents will then determine and project the contaminant fate and transport.
42. The Respondents shall implement the Final RI/FS WP, and SAP during this phase of the RI/FS. Field data will be collected and analyzed to provide the information required to accomplish the objectives of the study. The Respondents shall notify the EPA at least **fifteen (15) calendar days** in advance of the field work regarding the planned dates for field activities, including, but not limited to, ecological field surveys, field layout of the sampling grid, installation of wells, initiating sampling (air, surface water, ground water, sediments, soils, sludges, and biota), installation and calibration of equipment, aquifer tests, and initiation of analysis and other field investigation activities (including geophysical surveys and borehole geophysics). The Respondents shall demonstrate that the laboratory and type of laboratory analyses that will be utilized during the Site's characterization meets the specific QA/QC requirements and the DQOs of the investigation of the Site as specified in the Final RI/FS SAP. Activities are often iterative, and to satisfy the objectives of the RI/FS, it may be necessary for the Respondents to supplement the Work specified in the Final RI/FS WP.
43. The Respondents shall perform the following activities as part of Task 6 (Site Characterization):
  - a. Field Investigation - The field investigation shall include the gathering of data to define the Site's physical and biological characteristics, sources of contamination, and the nature, extent, fate, and transport of contamination at the Site. These activities shall be performed by the Respondents in accordance with the Final

RI/FS WP and SAP. At a minimum, this field investigation shall address the following:

- (i) Implementation and Documentation of Field Support Activities - The Respondents shall initiate field support activities following the Final RI/FS WP and SAP approval by the EPA. Field support activities may include obtaining access to the Site, scheduling, and procurement of equipment, office space, laboratory services, and/or contractors.
- (ii) Investigation and Definition of Site Physical and Biological Characteristics - The Respondents shall collect data on the physical and biological characteristics of the Site and its surrounding areas including the physiography, geology, hydrology, and specific physical characteristics. This information shall be ascertained through a combination of physical measurements, observations, and sampling efforts, and will be utilized to define potential transport pathways and human and ecological receptor populations (including risks to endangered or threatened species). In defining the Site's physical characteristics, the Respondents shall also obtain sufficient engineering data for the projection of contaminant fate and transport and development and screening of remedial action alternatives, including information to assess treatment technologies.
- (iii) Surveying and Mapping of the Site - The Respondents shall develop a map of the Site that includes topographic information and physical features on and near the Site. If no detailed topographic map for the Site exists, a survey of the Site shall be conducted.
- (iv) Existing Well Inventory and Survey - The Respondents shall inventory and survey existing monitoring, residential, water supply, and industrial wells located within one mile of the Site. At a minimum the well information provided shall include the location, elevation, construction details including total depth and screened interval, aquifer name, use, and lithology (as determined from available well drilling records).
- (v) Waste Characterization - The Respondents shall determine the location, type, and quantities as well as the physical or chemical characteristics of any waste remaining at the Site. If hazardous substances are held in containment vessels, the integrity of the containment structure and the characteristics of the contents shall be determined.
- (vi) Definition of Sources of Contamination - The Respondents shall locate each source of contamination. For each location, the areal extent and



depth of contamination will be determined by sampling at incremental depths on a sampling grid. The physical characteristics and chemical constituents and their concentrations will be determined for all known and discovered sources of contamination. The Respondents shall conduct sufficient sampling to define the boundaries of the contaminant sources to the level established in the Final RI/FS QAPP and DQOs. Defining the source of contamination shall include analyzing the potential for contaminant release (e.g., long-term leaching from soil), contaminant mobility and persistence, and characteristics important for evaluating remedial actions, including information to assess treatment technologies.

- (vii) Description of the Nature and Extent of Contamination - The Respondent shall gather information to describe the nature and extent of contamination as a final step during the field investigation. This information shall also include soil contaminant retention capacity and mechanisms, ground water recharge and discharge areas, and ground water flow direction and rate at the Site. To describe the nature and extent of contamination, the Respondents shall implement an iterative sampling and monitoring program, and any study program identified in the Final RI/FS WP or SAP, such that by using analytical techniques sufficient to detect and quantify the horizontal and vertical concentration profiles of any potential contaminants, including any degradation or daughter contaminants, the migration of contaminants through the various media at the Site can be determined.
- (viii) In addition, the Respondents shall gather data for calculations of contaminant fate and transport.
- (ix) This process shall be continued until the area and depth of contamination are known, based on validated data, to the level of contamination established in the Final RI/FS QAPP and DQOs. The Respondents shall describe the factors influencing contaminant movement and prepare an extrapolation of future contaminant movement. The information on the nature and extent of contamination will be used to determine the level of risk presented by the Site and to help determine aspects of the appropriate remedial action alternatives to be evaluated.

- b. Data Analyses - The Respondents shall analyze the data collected and refine the Conceptual Site Model by presenting and analyzing validated data on source characteristics, the nature and extent of contamination, the transport pathways and fate of the contaminants present at the Site, and the effects on human health and the environment:

- (i) Evaluation of Site Characteristics - The Respondent shall analyze and evaluate the data to describe the Site's physical and biological characteristics, contaminant source characteristics, nature and extent of contamination, and contaminant fate and transport. Results of the Site's physical characteristics, source characteristics, and extent of contamination analyses are utilized in the analysis of contaminant fate and transport. The evaluation will include the actual and potential magnitude of releases from the sources, and horizontal and vertical spread of contamination as well as the mobility and persistence of the contaminants. Where modeling is appropriate, such models shall be identified by the Respondents to the EPA in a *Technical Memorandum on Modeling of Site Characteristics* prior to their use. If EPA disapproves of or requires revisions to the technical memorandum, in whole or in part, Respondents shall amend and submit to EPA a revised technical memorandum on modeling which is responsive to directions and EPA comments within **fifteen (15) calendar days** of receipt of EPA's comments.

All data and programming, including any proprietary programs, shall be made available to the EPA together with a sensitivity analysis. The RI data shall be presented in a format to facilitate the Respondents' preparation of the Baseline Human Health and Ecological Risk Assessments (Task 7, Risk Assessments). All data shall be archived in a database in a such a format that would be accessible to investigators as needed.

The Respondents shall agree to discuss and then collect information as necessary to address any data gaps identified by the EPA that are needed to complete the risk assessments. Also, this evaluation shall provide any information relevant to the Site's characteristics necessary for evaluation of the need for remedial action in the risk assessments and for the development and evaluation of remedial alternatives. Analyses of data collected for the Site's characterization shall meet the DQOs developed in the Final RI/FS QAPP and stated in the Final RI/FS SAP (or revised during the RI).

- c. Data Management Procedures - The Respondents shall consistently document the quality and validity of field and laboratory data compiled during the RI as follows:
  - (i) Documentation of Field Activities - Information gathered during the Site's characterization shall be consistently documented and adequately recorded by the Respondents in well maintained field logs and laboratory reports.

The method(s) of documentation shall be specified in the Final RI/FS WP and/or the SAP. Field logs shall be utilized to document observations, measurements, and significant events that have occurred during field activities. Laboratory reports shall document sample custody, analytical responsibility and results, adherence to prescribed protocols, non-conformity events, corrective measures, and data deficiencies.

- (ii) Sample Management and Tracking - The Respondents shall maintain field reports, sample shipment records, analytical results, and QA/QC reports to ensure that only validated analytical data are reported and utilized in the risk assessments and the development and evaluation of remedial alternatives. Analytical results developed under the Final RI/FS WP shall not be included in any characterization reports of the Site unless accompanied by or cross-referenced to a corresponding QA/QC report. In addition, the Respondent shall establish a data security system to safeguard chain-of-custody forms and other project records to prevent loss, damage, or alteration of project documentation.
- d. Site Characterization Deliverables - The Respondent shall prepare the Preliminary Site Characterization Summary Report as follows:
- (i) The Respondents shall submit a ***Draft Preliminary Site Characterization (PSC) Report*** to EPA for review and approval within **thirty (30) calendar days** following receipt of all validated sample analytical results from the laboratory.
  - (ii) The Respondents shall submit to the EPA the ***Final Preliminary Site Characterization (PSC) Report*** that is responsive to the directions in EPA's comments within **twenty (20) calendar days** from the receipt of the EPA's comments on the draft report.
  - (iii) The PSC Report shall describe the investigative activities that have taken place, and describe and display the Site's data documenting the location and characteristics of surface and subsurface features and contamination at the Site including the affected medium, location, types, physical state, and concentration and quantity of contaminants. In addition, the location, dimensions, physical condition, and varying concentrations of each contaminant throughout each source, and the extent of contaminant migration through each of the affected media shall be documented.

The Draft PSC Report shall provide the EPA and the Respondent with a preliminary reference for developing the Baseline Human Health and

Ecological Risk Assessments, evaluating the development and screening of remedial alternatives, and the refinement and identification of ARARs.

**Task 7: Risk Assessments**

44. The Respondents shall perform a Baseline Human Health Risk Assessment (BHHRA), Screening Level Ecological Risk Assessment, and a Baseline Ecological Risk Assessment (if necessary) for the Site. The Respondent will prepare one section of the Final RI/FS WP (Task 2) which discusses the risk assessment process and outlines the steps necessary for coordinating with the EPA at key decision points within the process. Submittal of deliverables, meetings and/or conference calls, and presentations to the EPA will be reflected in the project schedule in the Final RI/FS WP to demonstrate the progress made on the risk assessments. The DQOs listed within the Final RI/FS QAPP will include DQOs specific to risk assessment needs, and critical samples needed for the risk assessments will be so identified within the Final RI/FS SAP. These risk assessments shall consist of both Human Health and Ecological Risk Assessments as follows:
- a. Baseline Human Health Risk Assessment - The Respondents shall perform a BHHRA to evaluate and assess the risk to human health posed by the contaminants present at the Site. The Respondent shall refer to the appropriate EPA guidance documents (EPA 1989b, 1991a, 1991b, 1991c, 1992a, and 1998a) in conducting the BHHRA. The Respondents shall address the following in the BHHRA:
    - (i) Hazard Identification (sources)/Dose-Response Assessment - After completion of the Preliminary Site Characterization Report, the Respondents shall review available information on the hazardous substances present at the Site and identify the major contaminants of concern. The Respondents, with concurrence from the EPA, shall select contaminants of concern based on their intrinsic toxicological properties.
    - (ii) No later than **twenty (20) calendar days** following receipt of EPA approval of the Final PSC Report, the Respondents shall submit to EPA for review and approval a ***Draft Potential Chemicals of Concern (PCOC) Memorandum*** listing hazardous substances present at the Site (i.e., chemicals of concern as described in the Risk Assessment Guidance for Superfund).
    - (iii) The Respondents shall submit to the EPA the ***Final Potential Chemicals of Concern (PCOC) Memorandum*** that is responsive to the directions in EPA's comments within **seven (7) calendar**

**days** from the receipt of the EPA's comments on the draft memorandum.

- (iv) Conceptual Exposure/Pathway Analysis - The Respondents shall identify and analyze actual and potential exposure pathways. The proximity of contaminants to exposure pathways and their potential to migrate into critical exposure pathways shall be assessed.
- (v) Characterization of Site and Potential Receptors - The Respondents shall identify and characterize human populations in the exposure pathways.
- (vi) No later than **thirty (30) calendar days** following receipt of EPA approval of the Final PSC Report, the Respondents shall submit a ***Draft Exposure Assessment Memorandum*** to EPA for review and approval.
- (vii) The Respondents shall submit a ***Final Exposure Assessment Memorandum*** that is responsive to the directions in EPA's comments within **fifteen (15) calendar days** of receipt of the EPA's comments on the draft memorandum.
- (viii) During the exposure assessment, the Respondents shall identify the magnitude of actual or potential human exposures, the frequency and duration of these exposures, and the routes by which receptors are exposed. The exposure assessment shall include an evaluation of the likelihood of such exposures occurring and shall provide the basis for the development of acceptable exposure levels. In developing the exposure assessment, the Respondents shall develop reasonable maximum estimates of exposure for both current land use conditions and potential future land use conditions at the Site. The Exposure Assessment memorandum shall describe the exposure scenarios, assumptions, fate and transport models, and data.
- (ix) Risk Characterization - During risk characterization, the Respondents shall compare chemical-specific toxicity information, combined with quantitative and qualitative information from the exposure assessment, to measured levels of contaminant exposure levels and the levels predicted through environmental fate and transport modeling. These comparisons shall determine whether

concentrations of contaminants at or near the Site are affecting or could potentially affect human health.

For chemicals lacking an EPA toxicity value, Respondents shall submit to EPA for review and approval a ***Draft Toxicological and Epidemiological Studies Memorandum*** which will list of the toxicological and epidemiological studies that will be used to perform the toxicity assessment. If EPA disapproves of or requires revisions to the toxicological and epidemiological studies memorandum, in whole or in part, Respondents shall amend and submit to EPA a ***Final Toxicological and Epidemiological Studies Memorandum*** which is responsive to the directions in all EPA comments **within fifteen (15) calendar days** of receiving EPA's comments.

- (x) Identification of Limitations/Uncertainties - The Respondents shall identify critical assumptions (e.g., background concentrations and conditions) and uncertainties in the BHHRA.
  - (xi) Conceptual Site Model - Based on contaminant identification, exposure assessment, toxicity assessment, and risk characterization, the Respondents shall update the Conceptual Site Model for the Site.
- b. No later than **thirty (30) calendar days** following receipt of EPA approval of the Final Exposure Assessment Memorandum, the Respondents shall prepare and submit to the EPA for review and approval a ***Draft Baseline Human Health Risk Assessment (BHHRA) Report***.
  - c. The Respondents shall submit a ***Final Baseline Human Health Risk Assessment (BHHRA) Report*** that is responsive to the directions in EPA's comments within **twenty (20) calendar days** of receipt of the EPA's comments on the draft report.
  - d. The Respondents shall prepare and submit an Ecological Risk Assessment (ERA) Report that conforms to Ecological Risk Assessment Guidance for Superfund: Process for Designing & Conducting Ecological Risk Assessments, (U.S. EPA, OSWER Directive, No. 9285.7-25, February 1997) and other current EPA guidance, including but not limited to EPA 1989b, EPA 1992a, EPA 1992b, and EPA 1993. The scoping of all phases of the ERA shall follow the general approach provided in EPA 1992b and shall include discussions between the Respondents' and the EPA's risk assessors and risk managers.



The eight steps in the Baseline Ecological Risk Assessment (BERA) process include: Step 1 - Screening-Level Problem Formulation and Ecological Effects Evaluation, Step 2 - Screening-Level Preliminary Exposure Estimate and Risk Calculation, and submittal of a Screening Level Ecological Risk Assessment (SLERA) Report, and continues with, if necessary, Step 3 - Baseline Risk Assessment Problem Formulation, Step 4 - Study Design and Data Quality Objectives, and submittal of a ecological risk assessment work plan included with the RI/FS Sampling and Analysis Plan, Step 5 - Field Verification and Sampling Design, Step 6 - Site Investigation and Analysis of Exposure and Effects, Step 7 - Risk Characterization and submittal of the Baseline Ecological Risk Assessment (BERA) Report, and Step 8 - Risk Management. The Respondents shall perform the BERA in accordance with the appropriate EPA's guidance documents (EPA 1992a, 1997, and 1998a). The Respondents shall interact closely with the EPA's Remedial Project Manager and risk assessment staff assigned to the Site to ensure that draft deliverables are acceptable and major rework is avoided on subsequent submittals. The scope of the BERA will be determined via a phased approach as outlined in the EPA's guidance documents and documented in the following deliverables:

- (i) Step 1, Screening Level Problem Formulation and Ecological Effects Evaluation - The "Screening Level Problem Formulation and Ecological Effects Evaluation" step is part of the initial ecological risk screening assessment. For this initial step, it is likely that site-specific information for determining the nature and extent of contamination and for characterizing ecological receptors at the Site is limited. This step includes all the functions of problem formulation (Steps 3 and 4) and ecological effects analysis, but on a screening level. The results of this step will be used in conjunction with exposure estimates during the preliminary risk calculation in Step 2 (Screening-Level Preliminary Exposure Estimate and Risk Calculation).
- (ii) For the screening level problem formulation, the Respondents shall develop a Conceptual Site Model that addresses these five issues: 1) environmental setting and contaminants known or suspected to exist at the Site, 2) contaminant fate and transport mechanisms that might exist at the Site, 3) the mechanisms of ecotoxicity associated with contaminants and likely categories of receptors that could be affected, 4) the complete exposure pathways that might exist at the Site, and 5) selection of endpoints to screen for ecological risk.
- (iii) The next step in the initial ecological risk screening assessment will be the preliminary ecological effects evaluation and the establishment of



contaminant exposure levels that represent conservative thresholds for adverse ecological effects. Screening ecotoxicity values shall represent a no-observed-adverse-effect-level for long-term exposures to a contaminant. Ecological effects of most concern are those that can impact populations (or higher levels of biological organizations) and include adverse effects on development, reproduction, and survivorship. For some of the data reported in the literature, conversions may be necessary to allow the data to be used for measures of exposure other than those reported. The Respondents shall consult with the EPA's Remedial Project Manager and risk assessors concerning any extrapolations used in developing screening ecotoxicity values.

- (iv) Step 2, Screening-Level Exposure Estimate and Risk Calculation - The "Screening-Level Exposure Estimate and Risk Calculation" comprises the second step in the ecological risk screening assessment for the Site. Risk is estimated by comparing maximum documented exposure concentrations with the ecotoxicity screening values from Step 1. At the conclusion of Step 2, the Respondents shall decide, with concurrence from the EPA, that either the screening-level ecological risk assessment is adequate to determine that ecological threats are negligible, or the process should continue to a more detailed ecological risk assessment (Steps 3 through 7). If the process continues, the screening-level assessment serves to identify exposure pathways and preliminary contaminants of concern for the BERA by eliminating those contaminants and exposure pathways that pose negligible risks.
- (v) To estimate exposures for the screening-level ecological risk calculation, on-site contaminant levels and general information on the types of biological receptors that might be exposed should be known from Step 1. Only complete exposure pathways should be evaluated and the highest measured or estimated on-site contaminant concentration for each environmental medium should be used to estimate exposures, thereby ensuring that potential ecological threats are not missed.
- (vi) The Respondents will estimate a quantitative screening-level risk using the exposure estimates developed according to Step 2 and the screening ecotoxicity values developed according to Step 1. For the screening-level risk calculation, the hazard quotient approach, which compares point estimates of screening ecotoxicity values and exposure values, is adequate to estimate risk.

- (vii) At the end of Step 2, the Respondents shall decide, with concurrence from the EPA, whether the information available is adequate to support a risk management decision. The three possible decisions at this point will be: (1) there is adequate information to conclude that ecological risks are negligible and therefore no need for remediation on the basis of ecological risk; (2) the information is not adequate to make a decision at this point, and the ecological risk assessment process will continue to Step 3; or (3) the information indicates a potential for adverse ecological effects, and a more thorough assessment is warranted.
- (viii) The Respondent shall document the decision and the basis for it in a ***Draft Screening Level Ecological Risk Assessment (SLERA) Report*** and submit it to the EPA for review and approval within **thirty (30) calendar days** after the Effective Date of this AOC.
- (ix) The SLERA Report shall identify any bio-accumulative contaminants present at the Site. The list of potentially bio-accumulative contaminants is included in Table 3-1 of Guidance for Conducting Ecological Risk Assessments at Remediation Sites in Texas (TCEQ), December 2001. Any bio-accumulative contaminants present at the Site shall be carried forward to the BERA if a BERA is necessary.
- (x) The Respondents shall submit a ***Final Screening Level Ecological Risk Assessment (SLERA) Report*** that is responsive to the directions in EPA's comments within **fifteen (15) calendar days** of receipt of the EPA's comments on the draft report.
- (xi) Step 3, Baseline Risk Assessment Problem Formulation - The "Baseline Risk Assessment Problem Formulation" step of the BERA, if necessary, will refine the screening-level problem formulation and expands on the ecological issues that are of concern at the Site. In the screening-level assessment, conservative assumptions are used where site-specific information is lacking. In Step 3, the results of the screening assessment and additional site-specific information are used to determine the scope and goals of the BERA. Steps 3 through 7 will be required only if the screening-level assessment, in Steps 1 and 2, indicated a need for further ecological risk evaluation.
- (xii) Problem formulation at Step 3 will include the following activities: (a) refining preliminary contaminants of ecological concern; (b) further characterizing ecological effects of contaminants; (c) reviewing and refining information on contaminant fate and transport, complete exposure

pathways, and ecosystems potentially at risk; (d) selecting assessment endpoints; and (e) developing a Conceptual Site Model (CSM) with working hypotheses or questions that the Site investigation will address.

- (xiii) Step 4, Study Design and Data Quality Objective Process - The “Study Design and Data Quality Objective Process” step of the BERA will establish the measurement endpoints which complete the CSM in Step 3. The CSM will then be used to develop the study design and DQOs. The deliverable of Step 4 will be an ecological risk assessment work plan included in the RI/FS Sampling and Analysis Plan (Task 3), which shall describe the CSM, assessment endpoints, exposure pathways, questions and testable hypotheses, measurement endpoints and their relation to assessment endpoints, and uncertainties and assumptions. The ecological work plan shall also include a sampling and analysis plan that describes data needs; scientifically valid and sufficient study design and data analysis procedures; study methodology and protocols, including sampling techniques; data reduction and interpretation techniques, including statistical analyses; and quality assurance procedures and quality control techniques including validation of sample results.
- (xiv) Step 5, Field Verification of Sampling Design - The “Field Verification of Sampling Design” step of the BERA process will ensure that the DQOs for the Site can be met. This step verifies that the selected assessment endpoints, testable hypotheses, exposure pathway model, measurement endpoints, and study design from Steps 3 and 4 are appropriate and implementable at the Site. Step 6 of the BERA process cannot begin until the Final RI/FS Sampling and Analysis Plan is approved by the EPA.
- (xv) Step 6, Site Investigation and Analysis Phase - The “Site Investigation and Analysis Phase” of the BERA process shall follow the ecological work plan in the Final RI/FS Sampling and Analysis Plan developed in Step 4 and verified in Step 5. The Step 6 results are then used to characterize ecological risks in Step 7.
- (xvi) The ecological work plan, included in the RI/FS Sampling and Analysis Plan, will be based on the CSM and will specify the assessment endpoints, risk questions, and testable hypotheses. During the site investigation, the Respondents shall adhere to the DQOs and to any requirements for co-located sampling. The analysis phase of the BERA process will consist of the technical evaluation of data on existing and potential exposures and ecological effects at the Site. Existing and potential exposure concentrations shall be calculated based on the 95% upper confidence

level (UCL) of the mean media concentration, and not the average values. This analysis will be based on the information collected during Steps 1 through 5 and will include additional assumptions or models to interpret the data in the context of the CSM. Changing field conditions and new information on the nature and extent of contamination may require a change to the RI/FS Sampling and analysis Plan.

- (xvii) Step 7 - Risk Characterization - The “Risk Characterization” step is considered the final phase of the BERA process and will include two major components: risk estimation and risk description. Risk estimation is based on the Site investigation results and will consist of integrating the exposure profiles with the exposure-effects information and summarizing the associated uncertainties. The risk description will provide information important for interpreting the risk results and will identify a threshold for adverse effects on the assessment endpoints.
- (xviii) No later than **sixty (60) calendar days** following receipt of EPA approval of the Final PSC Report, the Respondents shall submit to EPA for review and approval a ***Draft Baseline Ecological Risk Assessment (BERA) Report***.
- (xix) The Respondents shall submit a Final ***Baseline Ecological Risk Assessment (BERA) Report*** that is responsive to the directions in EPA’s comments within **thirty (30) calendar days** of the receipt of the EPA’s comments on the draft report.
- (xx) Step 8 - Risk Management - “Risk Management” at the Site will be the responsibility of the EPA’s Remedial Project Manager, who must balance risk reductions associated with cleanup of contaminants with potential impacts of the remedial actions themselves. In Step 7, a threshold for effects on the assessment endpoint as a range between contamination levels identified as posing no ecological risk and the lowest contamination levels identified as likely to produce adverse ecological effects will be identified. In Step 8, the EPA’s Remedial Project Manager will evaluate several factors in deciding whether or not to clean up to within that range. This risk management decision will be finalized by the EPA in the Record of Decision for the Site.

## Task 8: Treatability Studies

45. Treatability testing shall be performed, if required by EPA, by the Respondents to assist in the detailed analysis of alternatives. In addition, if applicable, testing results and operating conditions shall be used in the detailed design of the selected remedial technology. The following activities shall be performed by the Respondents:
- a. Determination of Candidate Technologies and of the Need for Testing - The Respondents shall identify the candidate technologies for a treatability studies program. Treatability studies may consist of laboratory screening, bench-scale testing, and/or pilot-scale testing. The listing of candidate technologies will cover the range of technologies required for alternatives analysis. The specific data requirements for the testing program will be determined and refined during the characterization of the Site and the development and screening of remedial alternatives. The Respondent shall perform the following activities:
    - (i) Conduct of Literature Survey and Determination of the Need for Treatability Testing - The Respondents shall conduct a literature survey to gather information on performance, relative costs, applicability, removal efficiencies, operation and maintenance requirements, and implementability of candidate technologies. If practical technologies have not been sufficiently demonstrated or cannot be adequately evaluated for this Site on the basis of available information, treatability testing may need to be conducted. Where it is determined by the EPA that treatability testing is required, and unless the Respondents can demonstrate to the EPA's satisfaction that they are not needed, the Respondents shall be required to submit a Treatability Study Work Plan to the EPA proposing the type(s) of treatability study to be conducted (i.e., laboratory screening, bench-scale testing, and/or pilot-scale testing), and outlining the steps and data necessary to initiate and evaluate the treatability testing program.
    - (ii) The Respondents shall submit a ***Draft Treatability Study (TS) Work Plan***, which includes a Sampling and Analysis Plan (SAP) and Health and Safety Plan, within **thirty (30) calendar days** after the receipt of the notice from the EPA that treatability studies are required.
    - (iii) The Respondents shall submit a ***Final Treatability Study (TS) Work Plan*** that is responsive to the directions in EPA's comments within **twenty (20) calendar days** of the receipt of the EPA's comments on the draft work plan.

- (iv) The Respondents shall submit a ***Draft Treatability Study (TS) Report*** to the EPA for review and approval according to the project schedule in the Final Treatability Study Work Plan.
- (v) The Respondents shall submit a ***Final Treatability Study (TS) Report*** that is responsive to the directions in EPA's comments within **twenty (20) calendar days** of the receipt of the EPA's comments on the draft report. This Report shall evaluate the technology's effectiveness and implementability in relation to the Preliminary Remediation Goals established for the Site. Actual results must be compared with predicted results to justify effectiveness and implementability discussions.

#### **Task 9: Remedial Investigation Report**

- 46. No later than **sixty (60) calendar days** following receipt of EPA approval of the PSC Report, the Respondents shall prepare and submit a ***Draft Remedial Investigation (RI) Report***.
- 47. The Respondents shall submit a ***Final Remedial Investigation (RI) Report*** that is responsive to the directions in EPA's comments within **thirty (30) calendar days** of the receipt of the EPA's comments on the draft report.
- 48. The Respondents shall refer to the EPA's guidance document titled "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b) and shall specifically follow Table 3-13 (Suggested RI Report Format) for the RI Report format and the required content. The information shall include a summary of the results of the field activities to characterize the Site, classification of ground water beneath the Site, nature and extent of contamination, and appropriate site-specific discussions for fate and transport of contaminants.
- 49. The Respondents shall conduct a presentation to the EPA within **fifteen (15) calendar days** following submission of the Final RI Report. At this presentation, the Respondents shall present and discuss the findings of the RI, Remedial Action Objectives, candidate technologies and remedy alternatives envisioned for the FS, and the comparative analysis.

#### **Task 10: Feasibility Study**

- 50. The Respondents shall perform a Feasibility Study (FS) as specified in this SOW. The FS shall include, but not be limited to, the development and screening of alternatives for remedial action, a detailed analysis of alternatives for remedial action, submittal of Draft and Final FS Reports, and other reports/memoranda as follows:



51. No later than **thirty (30) calendar days** following receipt of EPA approval of the Final PSC Report, the Respondents shall submit a ***Draft Remedial Alternatives Memorandum*** to the EPA for review and approval.
52. The Respondents shall submit a ***Final Remedial Alternatives Memorandum*** that is responsive to the directions in EPA's comments within **fifteen (15) calendar days** of the receipt of the EPA's comments on the draft memorandum.
- a. The Respondents shall develop an appropriate range of remedial alternatives that will be evaluated through development and screening. The Remedial Alternatives Memorandum shall summarize the assembled alternatives for each affected medium and the chemical, location, and action-specific ARARs for each of the considered alternatives. The reasons for eliminating alternatives during the preliminary screening process shall be specified.
  - b. The Remedial Alternatives Memorandum shall summarize the results of the screening process in relation to the Remedial Action Objectives and the more specific Preliminary Remediation Goals for the Site.
53. No later than **forty five (45) calendar days** after receipt of EPA approval of the Final RI Report, the Respondents shall submit to EPA for review and approval a ***Draft Feasibility Study (FS) Report***.
54. The Respondents shall submit a ***Interim-Final Feasibility Study (FS) Report*** that is responsive to the directions in EPA's comments within **thirty (30) calendar days** of the receipt of the EPA's comments on the draft report.
55. The Respondents shall refer to the EPA's guidance document titled "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b), specifically Table 6-5 (Suggested FS Report Format) for FS Report content and format.
56. The FS Report shall include a detailed analysis of remedial alternatives for the candidate remedies identified during the screening process. This detailed analysis shall follow the EPA's guidance document titled "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b) and other appropriate guidance documents. The major components of the analysis of alternatives for remedial action shall consist of an analysis of each option against a set of evaluation criteria and a separate discussion for the comparative analysis of all options with respect to each other in a manner consistent with the NCP. The Respondents shall not consider state and community acceptance during the analysis of alternatives. The EPA will perform the analysis of these two criteria.



57. The nine evaluation criteria used to evaluate the different remediation alternatives individually and against each other in order to select a remedy include the following:
- a. Overall protection of human health and the environment;
  - b. Compliance with ARARs;
  - c. Long-term effectiveness and permanence;
  - d. Reduction of toxicity, mobility, or volume;
  - e. Short-term effectiveness;
  - f. Implementability;
  - g. Cost;
  - h. State acceptance; and
  - i. Community acceptance.
58. The FS Report shall provide the basis for the Proposed Plan developed by the EPA under CERCLA and shall document the development and analysis of remedial alternatives. The Interim-Final FS Report may be subject to change following comments received during the public comment period on the EPA's Proposed Plan. The EPA will forward any comments pertinent to the content of the Interim-Final FS Report to the Respondents. The Respondents shall submit a ***Final FS Report*** that is responsive to the directions in EPA's comments within **thirty (30) calendar days** of the receipt of these comments.

## APPENDIX B-1

### SCHEDULE OF DELIVERABLES/MEETINGS

#### REMEDIAL INVESTIGATION AND FEASIBILITY STUDY GULFCO MARINE MAINTENANCE SUPERFUND SITE

DELIVERABLES/MEETINGS	DUE DATES (CALENDAR DAYS)
1. Scoping Phase Meeting	Meeting to occur within fifteen (15) days after the Effective Date of the AOC.
2. RI/FS Site Health and Safety Plan	Plan due within twenty (20) days after the Effective Date of the AOC. Plan must be in place prior to any onsite activities.
3. Screening Level Ecological Risk Assessment (SLERA) Report	Draft due within thirty (30) days after the Effective Date of the AOC. Final due within fifteen (15) days of the receipt of the EPA's comments.
4. RI/FS Work Plan	Draft due within sixty (60) days after the Effective Date of the AOC. Final due within twenty (20) days after the receipt of the EPA's comments.
5. RI/FS Sampling and Analysis Plan	Draft due within sixty (60) days after the Effective Date of the AOC. Final due within twenty (20) days after the receipt of the EPA's comments.
6. Technical Memorandum on Modeling of Site Characteristics.	Draft due when Respondents propose that modeling is appropriate. Final due within fifteen (15) days after receipt of the EPA's comments.
7. Preliminary Site Characterization (PSC) Report	Draft due within thirty (30) days after receipt of all validated laboratory data. Final due within twenty (20) days of the receipt of the EPA's comments.
8. Potential Chemicals of Concern (PCOC) Memorandum	Draft due within twenty (20) days after receipt of EPA approval of Final PSC Report. Final due within seven (7) days of the receipt of the EPA's comments.
9. Exposure Assessment Memorandum	Draft due within thirty (30) days after receipt of EPA approval of Final PSC Report. Final due within fifteen (15) days of the receipt of the EPA's comments.
10. Toxicological and Epidemiological Studies Memorandum.	Draft due as specified in the Final RI/FS Work Plan. Final due within fifteen (15) days of the receipt of the EPA's comments.

<b>DELIVERABLES/MEETINGS</b>	<b>DUE DATES (CALENDAR DAYS)</b>
11. Baseline Human Health Risk Assessment Report	Draft due within thirty (30) days after receipt of EPA approval of Final Exposure Assessment memorandum. Final due within twenty (20) days of the receipt of the EPA's comments.
12. Baseline Ecological Risk Assessment Report	Draft due within sixty (60) days after receipt of EPA approval of Final PSC Report. Final due within thirty (30) days of the receipt of the EPA's comments.
13. Treatability Study Work Plan	Draft due within thirty (30) days of the receipt of EPA's notice that treatability studies are required. Final due within twenty (20) days of the receipt of the EPA's comments.
14. Treatability Study Report	Draft due as specified in the Final Treatability Study Work Plan. Final due within twenty (20) days of the receipt of the EPA's comments.
15. Remedial Investigation (RI) Report	Draft due within sixty (60) days after receipt of EPA approval of Final PSC Report. Final due within thirty (30) days of the receipt of the EPA's comments.
16. Presentation to the EPA	Within fifteen (15) days after submission of the Final RI Report.
17. Remedial Alternatives Memorandum	Draft due within thirty (30) days after receipt of EPA approval of Final PSC Report. Final due within fifteen (15) days of the receipt of the EPA's comments.
18. Draft and Interim-Final Feasibility Study (FS) Report	Draft due within forty five (45) days after receipt of EPA approval of Final RI Report. Interim-Final due within thirty (30) days of the receipt of the EPA's comments.
19. Final Feasibility Study Report	Due thirty (30) days after receipt of EPA comments following public comment period.
20. Monthly Progress Reports	Initially due as specified in the RI/FS Work Plan. Thereafter, due by the tenth day of the following month.

## **APPENDIX B-2**

### **GUIDANCE DOCUMENTS**

#### **REMEDIAL INVESTIGATION AND FEASIBILITY STUDY GULFCO MARINE MAINTENANCE SUPERFUND SITE**

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the RI/FS process:

1. The (revised) National Contingency Plan
2. "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, " U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive No. 9355.3-01
3. "Interim Guidance on Potentially Responsible Party Participation in Remedial Investigation and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, Appendix A to OSWER Directive No. 9355.3-01.
4. "Guidance on Oversight of Potentially Responsible Party Remedial Investigations and Feasibility Studies, Volume I" U.S. EPA, Office of Waste Programs Enforcement, July 1, 1991, OSWER Directive No. 9835.31(c).
5. "Guidance on Oversight of Potentially Responsible Party Remedial Investigations and Feasibility Studies, Volume II" U.S. EPA, Office of Waste Programs Enforcement, July 1, 1991, OSWER Directive No. 9835.1(d).
6. "A Compendium of Superfund Field Operations Methods," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.0-14.
7. "Guidance for the Data Quality Objectives Process (QA/G-4)," (EPA/600/R-96/055, August 2000).
8. "Guidance for the Data Quality Objectives Process for Hazardous Waste Sites (QA/G-4HW)," (EPA/600/R-00/007, January 2000).
9. "Guidance for the Preparation of Standard Operating Procedures (QA-G-6)," (EPA/240/B-01/004, March 2001).

10. "EPA Requirements for Quality Management Plans (QA/R-2)," (EPA/240/B-01/002, March 2001).
11. "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001).
12. "Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA 600/R-98/018, February 1998).
13. "User's Guide to the EPA Contract Laboratory," U.S. EPA, Sample Management Office, January 1991, OSWER Directive No. 9240.0-01D
14. "CERCLA Compliance with Other Laws Manual," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, August 1988 (draft), OSWER Directive No. 9234.1-01 and -02.
15. "Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites," U.S. EPA, Office of Emergency and Remedial Response, (draft), OSWER Directive No. 9283.1-2.
16. "Draft Guidance on Superfund Decision Documents," U.S. EPA, Office of Emergency and Remedial Response, March 1988, OSWER Directive No. 9355-02.
17. "Risk Assessment Guidance for Superfund - Volume I, Human Health Evaluation Manual (Part A), EPA/540/1-89/002.
18. "Risk Assessment Guidance for Superfund: Volume I, Human Health Evaluation Manual (Part B), Development of Risk-Based Preliminary Remediating Goals." Office of Emergency and Remedial Response. OSWER Directive No. 9285.7-01B. December 1991.
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## **APPENDIX B-3**

### **APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

#### **REMEDIAL INVESTIGATION AND FEASIBILITY STUDY GULFCO MARINE MAINTENANCE SUPERFUND SITE**

A preliminary list of probable Applicable or Relevant and Appropriate Requirements (ARARs) will be generated by the Respondents during the Remedial Investigation and Feasibility Study process. This list will be compiled according to established EPA guidance, research of existing regulations, and collection of site-specific information and data. Three types of ARARs will be identified:

1. **Chemical-Specific ARARs:** These ARARs are usually health or risk-based numerical values or methodologies used to determine acceptable concentrations of chemicals that may be found in or discharged to the environment (e.g., maximum contaminant levels that establish safe levels in drinking water).
2. **Location-Specific ARARs:** These ARARs restrict actions or contaminant concentrations in certain environmentally sensitive areas. Examples of areas regulated under various Federal laws include flood plains, wetlands, and locations where endangered species or historically significant cultural resources are present.
3. **Action-Specific ARARs:** These ARARs are usually technology or activity-based requirements or limitations on actions or conditions involving specific substances.

Chemical and location-specific ARARs are identified early in the process, generally during the site investigation, while action-specific ARARs are usually identified during the Feasibility Study in the detailed analysis of alternatives.



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